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CHRONIC INFECTIOUS ARTHRITIS

STATISTICAL REPORT, WITH END-RESULTS *

FRANK BILLINGS, M.D.

GEORGE H. COLEMAN, M.D.

AND

WILLIAM G. HIBBS, M.D.

CHICAGO

It is generally recognized that the end-results of treatment of patients who suffer from a recognized disease entity are a fair measurement of the success of the management and treatment, and also of the correctness of the ascribed cause and of the character of the morbid process. We present herewith the end-results of the treatment of a series of patients with chronic deforming arthritis.

Seventeen years ago, one of us (F. B.) began a study of chronic deforming arthritis (arthritis deformans, rheumatod arthritis) in connection with a clinical investigation of focal infection.

In 1910 it was decided to make an intensive clinical research of chronic deforming arthritis. For this purpose a group of workers was organized, consisting of clinicians, pathologists and laboratory technicians, all of whom were members of the faculty of Rush Medical College and of the staff of the Presbyterian Hospital. The Otho S. A. Sprague Memorial Institute made a financial contribution and repeated it annually for the support of ten beds in the Presbyterian Hospital for indigent patients with the disease. Reports of some of this work have been presented by a few of the workers.[1]

In the decade of 1905 to 1915, 577 patients who complained of arthritis were admitted to the service of Dr. Frank Billings in the Presbyterian Hospital, Chicago. Approximately 85 per cent. of these were admitted during the period of 1910 to 1914 inclusive. One hundred and sixty-six of these patients were classified as having acute arthritis, and are not included in this report. The remainder, 411 patients, suffered from chronic arthritis and constituted the basis of study and investigation, both clinical and statistical. In 1917, a questionnaire was mailed to all of the 411 patients and 309, or 75.2 per cent., made satisfactory answers. The exigencies due to the World War prevented a thorough study and publication of the results of the treatment of these patients at that time. For two years following the armistice, local conditions were such that it was necessary to delay the report. To obtain still more definite information of the results of the management and treatment, a similar questionnaire was sent again in August, 1921. Satisfactory replies were received from 226, or 54.9 per cent., of the patients.

Seventy of the patients were admitted to the hospital only for diagnosis and opinion, and remained from one to three days. One hundred and thirty-four patients were in the hospital from one to three weeks, a time considered sufficient for a thorough study of the condition and for the removal of recognized primary foci of infection. Two hundred and seven of the patients were under observation and management in the hospital for periods varying from four to six weeks, and in a few instances for as long as one or two years.

The statistical tables presented herewith will be made more understandable by a description of the pathology, the morbid anatomy and the principles that guided the management and treatment.

PATHOLOGY

Primarily and fundamentally, the clinical research was based on the probability that chronic deforming arthritis is, as a rule, infectious in character; that the chief etiologic factor is a focus of infection either single or multiple, usually located in tissues communicating with a mucous surface and sometimes with a cutaneous surface; that secondary etiologic foci are often present in lymph nodes, proximal to primary foci and to infected joints, and that both primary and secondary foci of infection may be the source of bacteremia of varying intensity for a period or for intermittent periods of time.

The result of a bacteremia on the host is dependent on the virulence and also on the number of bacteria in the blood stream. The defensive and offensive powers of the blood and of the other tissues of the host may be sufficient and adequate to overcome the invading pathogenic agents, with no lasting injury to the patient; or the invading micro-organisms may be so virulent or their number may be so enormous in the blood stream that the defensive and offensive forces of the host are overwhelmed with a result that may jeopardize the health or the life of the patient. It must be recognized, too, that the resistance of the

* Read before the Chicago Society of Internal Medicine, Feb. 27, 1922.

1. Billings, Frank: Chronic Focal Infections and Their Etiologic Relations to Arthritis and Nephritis, Arch. Int. Med. **9**: 484 (April) 1912; Chronic Focal Infection as a Causative Factor in Chronic Arthritis, J. A. M. A. **61**: 819 (Sept. 13) 1913; Clinical Aspects and Medical Management of Arthritis Deformans, Illinois M. J. **25**: 11, 1914; Focal Infection, J. A. M. A. **63**: 899 (Sept. 12) 1914; Systemic Diseases of Focal Origin, in Forchheimer's Therapeusis of Internal Diseases **5**: 169, 1914; The Principles Involved in Focal Infection as Related to Systemic Disease, J. A. M. A. **67**: 847 (Sept. 16) 1916; Focal Infection, Lane Medical Lectures, New York, D. Appleton & Co., 1917; Focal Infection, the Oxford Medicine, 1919, New York, Oxford University Press, p. 317. Davis, D. J.: Chronic Streptococcus Arthritis, J. A. M. A. **61**: 724 (Sept. 6) 1913. Jackson, Leila: Experimental Arthritis in Rabbits, J. Infect. Dis. **12**: 364, 1913. Rosenow, E. C.: The Etiology of Articular and Muscular Rheumatism, J. A. M. A. **60**: 1223 (April 19) 1913.

host, which is always relative and never absolute, may be further diminished by exhaustion and debility due to physical and mental overwork, starvation, chronic diseases, prolonged exposure to cold and wet, and other factors. Lessened resistance of the host due to exposure to extreme cold or wet, or to excessive fatigue especially, may intensify the virulence of the pathogenic invaders in the primary foci, may promote the occurrence of bacteremia, and may precipitate infection of the systemic tissues of the host. It should be remembered, too, that, with a bacteremia, noninfectious morbid conditions of joints due to faults of posture or weight-bearing, to trauma and the wear and tear of life, may increase the susceptibility to joint infection.

In this study we excluded acute infectious arthritis characterized by purulent exudates in the joint tissues and synovial sac which are caused by virulent strains of the streptococcus, pneumococcus, gonococcus, staphylococcus and other bacteria. Chronic infectious deforming arthritis is not attended with purulent exudates, and, if suppuration occurs in the joint tissues during the course of this disease, it is due to secondary sepsis.

This clinical research was centered on a study of the strains of streptococci isolated from the etiologic primary and secondary foci and from the infected periarticular tissues and synovial sac and from the joint exudate. The green-producing strains of the streptococcus were very predominant in pure and in mixed cultures. In animal experimentation the green-producing strains showed evidence of varying virulence, but usually were nonpyogenic. The hemolytic strains varied in virulence also; some strains produced purulent exudates in the joints of the intravenously injected animal, while other strains caused arthritis with serous or serofibrinous exudates. The quality of tropism was evident in many strains of the isolated bacteria, as manifested by the apparent affinity for the tissues of the joints, and some strains showed a marked affinity for muscular tissues. In a few patients, mildly virulent strains of gonococci were isolated from the only recognizable primary foci. These nonpyogenic strains caused arthritis with serofibrinous exudate in the intravenously injected rabbits.

This study of the character of the bacteria isolated from the primary foci and from the infected joint tissues and muscles of patients, and their effect on intravenously injected animals, was considered presumable evidence that chronic infectious arthritis is usually caused by strains of streptococci which are usually nonhemolytic and of low virulence, and occasionally by nonpyogenic strains of gonococci. The bacteria reach the joints through the blood stream, and lodge in the small vessels of the periarticular tissues, in the terminal vessels of the subserosa, and in the branches of the nutrient artery which end in the epiphysis. The reaction of the infected tissues is consistent with the degree of virulence of the infectious invaders which may be compared to minute emboli. Clumps of bacteria may block the small blood vessels, or the endothelial proliferation caused by the infection may obstruct the small blood vessels; local hemorrhages occur, and there may be a serofibrinous exudate manifested by edema and swelling of the periarticular tissues, and the synovial sac may contain more or less serofibrinous fluid. The infection may be confined to the periarticular tissues or may be a simple synovitis or, if the infection occurs in the epiphysis of the bone entering into the joint, primary ostearthritis may result. The severity of the local joint infection and the degree of general systemic disturbance is apparently dependent on the virulence of the invading infectious agents and on the number of bacteria which primarily reach the joint tissues. If the virulence of the micro-organisms is relatively high, the onset may resemble acute rheumatic fever. If the virulence is relatively low, the onset may be insidious and manifested by symptoms of slight involvement of the periarticular tissues only and usually of distal joints. The severe types of infection are usually progressive, and the character of the morbid changes of the joint tissues is hypertrophic or proliferative. The milder types are usually associated with morbid changes of a degenerative or atrophic character.

MORBID ANATOMY

Nichols and Richardson[2] have given an excellent description of the morbid anatomic conditions of the joints in chronic infectious deforming arthritis. They state that the morbid changes, both hypertrophic or proliferative and atrophic or degenerative, cannot be differentiated etiologically. They suggest that the morbid changes are due to the reaction of the tissues excited by toxins derived from infectious invaders or from faulty metabolism and other sources. In this group of patients were individuals who presented all types of arthritis: periarthritis and ostearthritis and synovitis; and individuals also exhibited typical hypertrophic or proliferative changes in one or more joints, while in other joints the morbid changes were atrophic or degenerative. The hypertrophic type was most frequently found in the young and vigorous individuals. Two of the children presented good examples of Still's disease, both typical examples of focal infection. Hypertrophy of bone in the form of Heberden's nodes and hypertrophic or atrophic changes in the larger joints were in evidence in the elderly patients of the group. Several patients presented typical villous arthritis of the knee joint, while in other joints the infection was manifested by milder anatomic forms of synovitis or periarthritis.

The study of this group of patients justifies the view that these morbid tissue changes are probably secondary to the primary reactions of the joint tissues due to the presence of the invaders or their toxins. If the embolic mode of infection is accepted, the tissue reaction includes the blocking of blood vessels by bacterial emboli and by endothelial proliferation with small perivascular hemorrhages and serofibrinous exudate in the tissues and in the synovial sac, with a tendency to subsequent cellular proliferation and secondary sclerosis and contraction. These morbid conditions interfere with the local blood supply and with the nutrition of the infected joint tissues. Repeated doses of the infectious micro-organisms having their source in the primary or secondary etiologic foci will cause renewed and increased damage to the joint tissues. The relative ischemia that results will be followed by malnutrition of the infected tissues. The local morbid condition will be aggravated by the systemic malnutrition and lessened tone of the general circulation from which these patients suffer usually. It is fair to assume that the local malnutrition and morbid changes in the tissues associated with general

2. Nichols, E. H., and Richardson, F. L.: Arthritis Deformans, J. M. Res. **16**: 149, 1909.

debility will lead to secondary degenerative changes in the joint structures.

The marked secondary morbid changes which occur in chronic infectious ostearthritis, characterized by the tendency to the formation of new bone, must be due to faulty metabolism. In ostearthritis of the hip, knee, ankle, elbow, wrist, jaw and the spinal column, it is not unusual to find the ligaments converted into bone. This is so pronounced in some cases of ostearthritis of the spine that the bony overgrowth has been likened to the hardened tallow of a guttering candle. The cartilage and the muscle tendons surrounding some joints may become partly or wholly converted into bone. It is difficult to explain the influences which seem to stimulate the conversion of the lower types of these tissues, muscle tendons, ligaments and cartilage into the higher type bone, although the change is explicable on the fact that they have the same mesenchymal origin.

Apparently the part which a deficient blood supply and the consequent poor tissue nutrition may play in the conversion of ligaments, cartilage and muscle tendons into bone was illustrated in some of our patients. One woman, who suffered from a chronic infectious polyarthritis of moderate severity, wore a cast on one ankle when she was admitted to the clinic. This had been applied three or more months before as an experimental method of relieving the lameness of the ankle. When the cast was removed, the joint was found completely ankylosed. This experience was amplified by the same results of fixation of joints in other patients. It is well known that a joint immobilized by a plaster cast or by other means for a considerable period of time undergoes degenerative changes which may be presumed to be due to arrested function, to poor blood supply and to the consequent poor nutrition of the tissues. Other patients who entered the clinic exhibited one or more joints partly or completely ankylosed, who gave the history of surgical treatment by means of forcible flexion and extension of the joints to correct deformity. The resulting traumatism, added to the existing morbid anatomy, apparently promoted rapid bony ankylosis.

A considerable number of the patients showed diminished carbohydrate tolerance and an increase in the blood sugar. Some patients exhibited moderate blood nitrogen retention associated with slight albuminuria and cylindruria. Digestive disturbance was a common observation, especially of those patients who had suffered from the disease for several years. Coincident involvement of the cardiovascular apparatus was found in many of the patients advanced in years, with the associated degeneration of blood vessels and increase of blood pressure.

CHRONIC INFECTIOUS MYOSITIS

General chronic infectious myositis, with but slight involvement of the joints in the early stages of the disease, was a clinical entity in this group. The morbid tissue changes of the infected muscles was produced apparently in the same manner as the infection of the joints. Examination of the infected muscle tissue of animals intravenously injected with living nonhemolytic streptococci showed embolus-like clumps of bacteria in the small arteries, endothelial proliferation blocking the vessels, and small perivascular hemorrhages. The examination of the muscular tissues of the infected animals one or more months after the experimental injection revealed focal connective tissue overgrowth, obliteration of small arteries, and a contraction of the muscular bundles due to the connective tissue sclerosis. This histologic examination of the infected human muscle, which was removed under local anesthesia and always with the consent of the patient, showed similar morbid changes characterized by connective tissue overgrowth and contraction.

Some of the patients complained of pain, and this was associated with tenderness of the nerve trunks and of muscle bundles to which the nerves were distributed. This was interpreted as infectious neuritis or perineuritis due to the same infectious micro-organisms.

The deformity of joints in these patients was due to bony overgrowth, to involuntary overaction of flexor muscles to relieve intra-articular pressure, and also to contraction of muscles due to morbid tissue changes caused by infection of the muscles.

CLINICAL COURSE

The onset of the disease in 136 patients was characterized by acute symptoms manifested by acute or subacute arthritis, fever, increase of pulse rate and general discomfort. In 265 patients the onset was insidious. The relation of the onset to the end-result of the management and treatment is shown in Table 9. The clinical study of the group justifies the opinion that the progressive character of the disease is explained by the persistence of the primary or secondary etiologic foci through the failure of their complete eradication. The resulting intermittent bacteremia and reinfection of joint tissues serves to explain the occurrence of exacerbations and the persistence of the morbid conditions which are so characteristic of the disease. The persistence of the joint infection after the spontaneous disappearance of the surgical eradication of the primary and secondary etiologic foci finds explanation probably in the continued presence of the infectious agents in the joint tissues or in tissues which are in situations which do not permit of exploration, as, for example, in the mesenteric and other lymph nodes. After the removal of the etiologic foci of infection, the failure to apply a rational available management and treatment to correct remediable tissue defects explains the failure of improvement or of recovery in some of these patients.

MANAGEMENT AND TREATMENT

The management and treatment of this group of patients was based on the principles that relate to the cause, the mode of infection and the character of the morbid anatomic changes. Primarily, this involved the location and eradication of the apparent etiologic focus of infection. The location of the real focus of infection was difficult occasionally, and at times impossible. The diagnosis and location of the primary focus sometimes required the highest clinical skill and the cooperation of qualified specialists, laboratory investigation and the use of diagnostic instruments of precision, including the roentgen ray. In some patients the failure to eradicate completely the etiologic focus by surgical measures defeated the subsequent management and treatment. The failure to locate the real focus of infection at the beginning was illustrated in some of these patients. Two men of middle age, both of whom exhibited moderately severe periarticular arthritis associated with myositis, showed infected tonsils and associated apical infection of some of the roots of the teeth. These foci of infection were

eradicated surgically, and immediate partial recovery resulted. Relapses occurred in both instances, and later both patients developed evidences of calculous cholecystitis. After successful surgical treatment of this infection, both patients made complete recovery. Another patient, a woman, improved for a period after the removal of apparently infected tonsils and the extraction of some infected teeth, and then relapsed into a worse condition. She soon developed classical evidences of acute appendicitis, returned to the hospital, and, after appendectomy, made a prompt and complete recovery. It is probable that the failure to locate and to eradicate the real focus of infection in some of the other patients was the cause of the poor end-result.

The management adopted to overcome the systemic infection, to promote improvement of morbid tissues and to restore function of the joints included the general physical improvement of the patient by the selection of a properly balanced diet, the use of restorative and palliative drugs, attention to personal and general hygiene, a cheerful environment, and the employment of physical therapy, including hydrotherapy, thermotherapy, electrotherapy, occupational therapy, mechanotherapy, and regulated passive and active exercise.

While an attempt was made to select a balanced diet, individual peculiarities were considered. Some patients with a low carbohydrate tolerance, others with blood nitrogen retention or with a deficient output of urinary solids due to some morbid kidney condition, and others with manifest defective digestion were given a suitable diet to meet the individual condition. General malnutrition was met by a full, nourishing diet. Some patients were apparently benefited by a deficient but balanced diet over short periods of time. Patients with anemia were given hematinic and other tonics. Pain and soreness of joints and muscles and general discomfort were palliated by salicylic acid compounds. When possible, constipation was corrected by the proper diet and, when necessary, by simple laxatives. Bed rest was maintained during the stage of acute manifestation, and for very painful joints. Painful and sore joints were immobilized by means of splints or plaster casts applied for short periods of time. As soon as the absence of pain and soreness permitted, passive exercise was begun and increased cautiously day by day.

The results of this study emphasize the fact that the primary and fundamental purpose of all forms of physical therapy is to attempt to restore the general and local blood circulation and the nutrition of the tissues, and also the function of the disabled organs. The general debility which was manifested in a majority of these patients was associated with poor general circulation of the blood. The local blood supply of the infected joints and muscles was deficient also because of the general debility of the patient and because of the character of the morbid anatomic changes.

It was found that the improvement of the general condition of the patient by proper diet, rest, environment and other measures aided in the restoration of the tone of the general circulation. The tone of the general circulation was notably improved also by the rational application of hydrotherapy in the form of an alternating hot and cold shower or spray bath under considerable pressure. It was found that this type of hydrotherapy is equivalent in its tonic effects to a cold plunge bath, and at the same time is devoid of the shock and the unpleasant features of the latter. The circulation of the infected joints was improved also by the local application of the alternating hot-cold spray. Dry heat applied for a short period daily by means of hot air baking, by electric radiant light and by other simple means greatly improved the local blood circulation and at the same time palliated pain and soreness. Diathermy was not used. The proper application of massage, Swedish movements, calisthenics and other active exercises, such as walking, were found to be very helpful at the proper period in the treatment. Occupational therapy suitable for both bed and ambulatory patients was very useful in the restoration of the function of a special group of muscles and, in addition, was a valuable form of diversion to these unfortunates.

The general and special surgeons of the staff cooperated in the correction of deformities by the forcible extension of overflexed extremities by tenotomy and other measures when indicated. The experience gained in the application of forcible movements of the joints, if attended with considerable injury to the tissues by the breaking up of dense adhesions, justifies the opinion that this method of treatment may do more harm than benefit.

The experience gained in this study justifies the opinion that the general improvement of the patient who suffers from chronic infectious arthritis, which will usually follow the rational application of the measures of management and treatment described, will do more to restore the natural resistance of the patient to further local or general infection and to rid the tissues of the infectious invaders, than any other form of treatment. However, in the management and treatment instituted, autogenous vaccines of killed streptococci, a polyvalent horse serum, and nonspecific proteins injected intravenously were used with some of the patients. The autogenous vaccines were made in the laboratory of the hospital and in the laboratory of the John Rockefeller McCormick Institute for Infectious Diseases from strains of streptococci obtained from (*a*) cultures made from primary and secondary foci of infection and from infected muscles and infected joint tissues of patients; (*b*) strains of streptococci obtained from the joint tissues and muscles of laboratory animals intravenously injected with strains obtained from infected human tissues, and (*c*) autogenous strains *a* and *b* sensitized with the polyvalent horse serum mentioned. These autogenous vaccines were used hypodermically in doses of from 50 millions to 2 billions repeated at intervals at from five to seven days. The effect of the vaccines was studied by noting the local, the general and the focal reaction, and by estimating the opsonic index of the blood of the patient before and after each vaccination. Experience showed that a medium dose of from 300 million to 500 million of the vaccine was quite as effective as larger doses, and this standard dose was finally adopted. The local reaction was usually manifested by slight local tumefaction, occasional slight redness of the skin, and a moderate degree of soreness. The general reaction was almost always objectively negative; subjectively, patients sometimes expressed a feeling of improvement or of greater discomfort. Focal reaction was usually objectively negative, but the patients sometimes complained of greater discomfort in the affected joints or muscles from twelve to twenty-four

hours after the vaccination. The opsonic index usually showed an upward curve, but did not disclose evidence of improvement in the immunity of the patient, and after a year of steady application it was abandoned because its value as a measurement of the effect of the vaccination did not justify the great amount of work it entailed.

The polyvalent streptococcus horse serum was made by the intravenous injection of two horses with approximately sixty strains of nonhemolytic and hemolytic streptococci under the direction of Dr. J. J. Moore. Its specificity was tested by an estimation of its contained opsonins. The serum was used in the treatment of eighteen patients by injecting it subcutaneously in gradually increasing doses at intervals of from five to ten days. The local reaction to the injections of the serum was evidenced by a considerable local tumefaction of the subcutaneous tissues, some redness of the skin, and by a considerable soreness, which continued for a day or longer; the general reaction was usually positive, as shown by a slight rise in the body temperature, a moderate increase in the pulse rate, and a complaint of greater soreness of the joints. The focal reaction was not evident objectively, but virtually all of the patients who received the serum complained of greater discomfort in the infected joints. After one or more injections of the serum, practically all of the eighteen patients became sensitized to the serum, and subsequent doses caused anaphylactic or anaphylactoid shock. The anaphylactic shock was so severe in a few of the patients that it was decided to abandon it because the results of the treatment did not show sufficient benefit to justify the risk which its use involved. The autogenous vaccines sensitized with the polyvalent horse serum did not prove to be of greater benefit than the unsensitized antigen. The intravenous injection of foreign protein, bacterial and others, was usually attended with serious reactions, characterized by chill, followed by high febrile temperature, rapid pulse and great general discomfort. The opposition expressed by patients to the repetition of a second or third treatment restricted its general use. Some patients suffering from the milder types of arthritis were manifestly improved by the intravenous injection of the foreign protein. The small experience with the use of foreign proteins intravenously in this study does not justify an opinion as to the merits of this form of treatment of chronic infectious arthritis.

Of the 411 patients, 229 received autogenous vaccine, eighteen received vaccine and serum, and 164 were treated without vaccines or serum.

STATISTICS

The questions included in the questionnaire [3] were:

1. Have you had any additional focus of infection about the nose, throat, jaws or elsewhere since you were in the clinic?
2. Have you had any marked setbacks in your general condition?
3. (*a*) How much are you able to do in the way of work with the upper extremities? (*b*) How much are you able to do in the way of walking, with or without artificial appliances?
4. What is the condition of your spine?
5. What is the condition of your general health, particularly as regards weight, appetite, bowel movement, etc.?
6. How fully have you carried out the management with particular reference to forms of calisthenic and other exercise, tonic hot-cold-hot bath, avoidance of fatigue and proper food?
7. What treatment prescribed by us or others (exclusive of Question 8) have you had since you last attended the clinic?
8. Have you used with or without your doctor's advice any vaccines, serum, etc., and if so, what kind?
9. General remarks.

3. Questions 7 and 8 were included only in the questionnaire sent in 1921.

TABLE 1.—AGE INCIDENCE AT ONSET OF DISEASE

Age	Males	Females	Total	Osler's Series
1-10	1	4	5	21
11-20	15	29	44	72
21-30	50	62	112	108
31-40	37	58	95	107
41-50	23	53	76	83
51-60	25	35	60	66
61-70	4	15	19	27
71-80	0	0	0	4
Doubtful	0	0	0	12
Total	155	256	411	500

The youngest patient was a girl, aged 4 years, and the oldest was a man, aged 68. It is to be noted that the period of greatest incidence was in the third and fourth decades of life; 207 patients (50.3 per cent.) appear in these groups. In 161 patients (39.1 per cent.) the disease occurred before the age of 30 years. For the purpose of comparison, the figures of the incidence of the disease in the series reported by Osler are given in Table 1. It will be noted that 256 of the patients in this series were females and 155 were males. In the 500 patients reported by Garrod, which did not include patients with spondylitis, 411 were females. The group reported by Osler represented 256 females and 244 males. All of these reports indicate that the disease occurs more frequently in the female than in the male sex.

TABLE 2.—AGE INCIDENCE ON ADMISSION TO THE CLINIC

Age	Males	Females	Total
1-10	0	2	2
11-20	6	14	20
21-30	30	42	72
31-40	49	54	103
41-50	28	64	92
51-60	24	53	77
61-70	17	23	40
71-80	1	4	5
Total	155	256	411

On admission to the clinic, ninety-four patients (22.3 per cent.) were 30 years of age or less. This is in agreement with the statistics of Osler, in which 22 per cent. were under 30 years of age on admission to the hospital. The greatest age incidence on admission to the hospital was in the fourth and fifth decades.

TABLE 3.—DURATION, BY YEARS, OF DISEASE PREVIOUS TO ADMISSION TO THE CLINIC

Age	Males	Females	Total
0-1	28	39	67
1-2	29	37	66
2-3	18	39	57
3-4	16	16	32
4-5	11	25	36
5-6	4	18	22
6-7	4	9	13
7-8	4	10	14
8-9	4	11	15
9-10	5	7	12
10-15	17	24	41
15-20	8	10	18
20 or more	7	11	18
Total	155	256	411

Table 3 is a more detailed statistical compilation of the information given in Table 2. One hundred and thirty-three patients (32.3 per cent) had suffered from the disease less than two years, on admission to the

clinic, while seventy-seven patients (18.7 per cent.) had the disease more than ten years before they were admitted to the hospital.

TABLE 4.—OCCUPATIONS REPRESENTED

	Males	Females	Total
Indoor Occupations:			
Housework	0	195	195
Salespersons (clerks)	35	7	
School (student)	7	12	
Teacher	4	12	
Merchant	14	0	
Manager	8	0	
Nurse	1	7	
Garment worker (seamstress)	2	6	
Stenographer	1	7	
Telephone operator	0	7	
Lawyer	6	0	
Banker	4	0	
Brewer	3	0	
Barber	2	0	
Baker	1	0	
Shoemaker	1	0	
Printer	1	0	
			148
Total indoor occupations			343
Outdoor Occupations:			
Building trades	23	0	
Farmer	18	0	
Physician	13	1	
Engineer	6	0	
Artist	2	1	
Minister	1	0	
Total outdoor occupations			65
No occupation given	2	1	3
Total	155	256	411

The possible contributory etiologic influence of occupation is shown in Table 4. It will be noted that the 195 women patients (47.4 per cent.) were engaged in some form of general housework. One hundred and

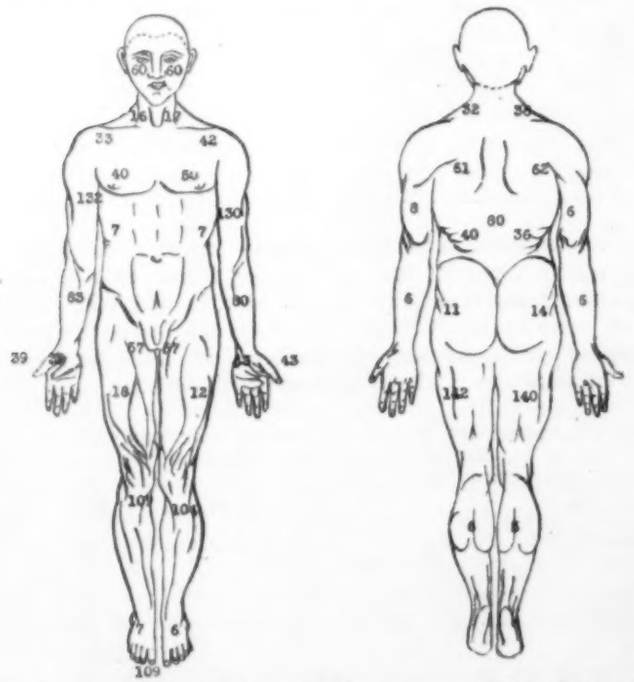


Fig. 1.—Morbid anatomic changes due to true myositis and to spasmodically contracted and atrophic muscles.

forty-eight male and female patients (36 per cent.) were engaged in some other form of indoor occupation, making a combined total of 343 (83.4 per cent.) of the 411 patients who were engaged in indoor occupations. Sixty-five patients (15.6 per cent.) were engaged in outdoor occupations, and it is of interest to note that of these, fourteen (3.4 per cent.) were physicians. In the series reported by Osler, a large majority of the patients had been engaged in indoor occupations.

The attempt to classify the patients on the basis of the apparent anatomic changes is shown in Table 5. It will be noted that 311 patients exhibited the mixed types of the disease. One hundred patients were fairly

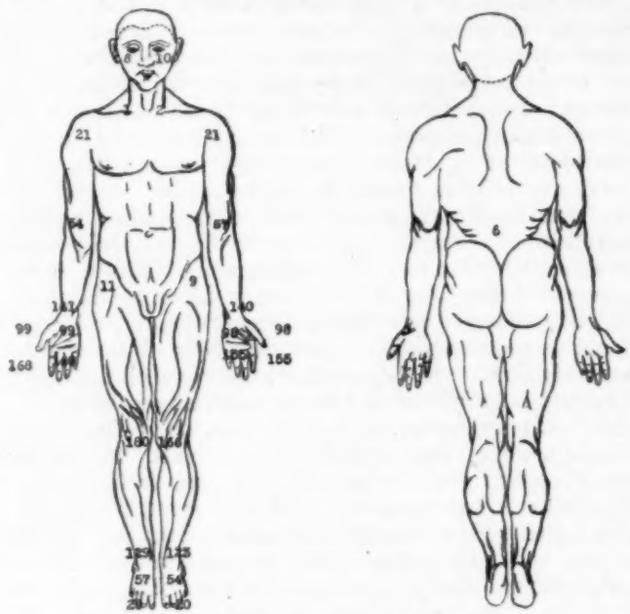


Fig. 2.—Incidence of periarthritis in the joints.

representative of pure types of either ostearthritis, periarthritis or myositis. Not all of the thirty-four patients classified as myopathic were free entirely of some joint involvement, but the incidence of myositis was predominant.

The classification of the disease based on the morbid anatomic conditions serves a useful purpose in a clinical description of the disease. This study of the group of patients indicates that the several degrees of morbid

TABLE 5.—TYPE OF INVOLVEMENT

Mixed:		
Predominant myopathic	58	
Predominant periarthritic	208	
Predominant ostearthritic	45	
		311
Virtually Pure:		
Myopathic	34	
Periarthritic	55	
Ostearthritic	11	
		100
Total		411

anatomic conditions recognized in such a classification are more properly stages of the development of the infectious process in the joints. The element of time in which the disease has existed must be taken into consideration in any attempt to classify the disease on an anatomic basis.

In Figure 1, the numerals indicate morbid anatomic changes of muscles due to true myositis and also to spasmodically contracted and atrophic muscles.

In Figure 2, the numerals indicate the incidence of periarthritis of the respective joints. Attention is directed to the fact that spondylitis of periarthritic type was encountered in six patients.

In Figure 3, the numerals indicate the incidence of ostearthritis, which includes twenty-six patients with spondylitis.

It will be noted, in Table 6, that no primary or secondary focus of infection was found in twenty-five patients. As stated previously, there exists always the possibility that a focus of infection may exist in some organ or tissue inaccessible to methods of examination. Table 6 indicates the site of single or multiple foci of infection in 386 patients.

TABLE 6.—PROBABLE FOCI: HOW OFTEN AND IN WHAT COMBINATIONS THEY WERE FOUND

	No.		No.
None found	25	Tonsil and apendix	1
Tonsil only	205	Tonsil, uterus and tube	6
Tonsil and teeth	97	Teeth only	27
Tonsil and sinus	4	Teeth and sinus	1
Tonsils, teeth and sinus	4	Teeth and pus tubes	1
Tonsil and bronchi	1	Teeth and prostate	1
Tonsil, teeth and bronchi	2	Sinus only	1
Tonsil, teeth, bronchi and sinus	1	Prostate and genito-urinary tract only	12
Tonsil and prostate	9	Uterus and appendages only	4
Tonsil, teeth and prostate	2	Middle ear only	1
Tonsil and gallbladder	2	Bronchi only	1
Tonsil, sinus and gallbladder	1	Enterocolitis	1
Tonsil and enterocolitis	1		
Total	411		

Table 7 indicates the number of times that a primary or secondary focus of infection was found in designated sites.

In connection with the statistics of the incidence and the location of primary foci of infection, it should be added that, as to the previous existence of foci of infection, evidenced by the histories obtained at the time of admission of the patients to the clinic, forty-four patients (10.7 per cent.) denied knowledge of previous focal infection. Two hundred and twenty-one patients (53.7 per cent.) gave a definite history of attacks of tonsillitis. Seventy-two patients (17.5 per cent.) had suffered from attacks of rheumatism, and forty of these patients presented evidences of valvular defects of the heart. Thirty-five patients (8.5 per cent.) had suffered from dental infection. Seventy-four (17.6 per cent.) confessed to previous genito-urinary infection.

TABLE 7.—NUMBER OF TIMES EACH FOCUS WAS CONSIDERED A PROBABLE SOURCE OF INFECTION

	No.		No.
Tonsil	336	Prostate and genito-urinary tract	24
Teeth	136	Gallbladder	3
Sinus	12	Enterocolitis	2
Bronchi	5	Appendix	1
Uterus and tubes	12	Middle ear	1

The preponderance of nonhemolytic types of streptococci is shown in the statistics as made from the infected excised lymph glands, joint tissues and pieces of muscle and from foci of infection (Table 8). Comment has already been made on the varying degree of virulence which characterized the isolated bacteria.

TABLE 9.—RELATION OF TYPE OF ONSET TO END-RESULTS; BASED ON 1917 RETURNS

	Worse or Unimproved	Improved	Practically Recovered or Cured	Dead	No Report	Total
Acute onset	23	42	30	4	37	136
Insidius onset	53	97	39	12	64	265
No record	3	3	2	1	1	10
Total	79	142	71	17	102	411

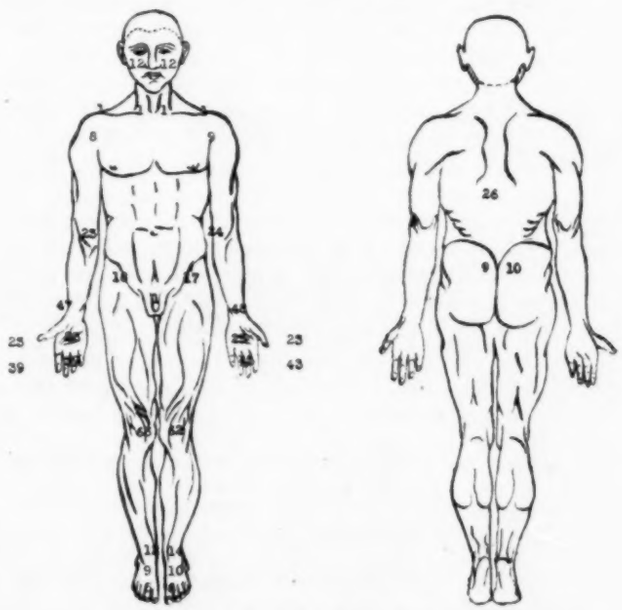


Fig. 3.—Incidence of osteoarthritis.

It is a generally accepted opinion that the more acute the onset of infectious arthritis, the more favorable the prognosis for improvement and cure, and that the more insidious the onset, the less favorable the prognosis for improvement or cure. This opinion is substantiated in the statistics of Table 9. Twenty-two per cent. of the patients in whom the disease was manifested by an

TABLE 8.—ORGANISMS OBTAINED

Focus of Infection	No Streptococci Found	Not Removed, No Record, or Removed Before Admission	Only Streptococci Found Were Hemolytic Streptococci	Only Streptococci Found Were Nonhemolytic or Green Producing Streptococci	Mixed Streptococci: Nonhemolytic Predominating	Mixed Streptococci: Hemolytic Predominating	Gonococci Only	Mixed Gonococci and Streptococci	Staphylococci Only	Total
Tonsil	0	82	20	34	150	50	0	0	0	336
Teeth	16	29	8	63	39	5	0	0	1	161
Sinus	3	0	1	5	3	0	0	0	0	12
Bronchi	0	0	0	0	4	1	0	0	0	5
Prostate and genito-urinary tract	6	0	2	10	0	1	6	2	3	30
Uterus and tubes	1	2	0	8	1	0	0	0	0	12
Gallbladder	0	2	0	0	1	0	0	0	0	3
Appendix	0	1	0	0	0	0	0	0	0	1
Stool	5	0	1	1	0	0	0	0	0	7
Ear	0	0	0	0	1	0	0	0	0	1
Gland	6	1	1	19	1	0	0	0	0	28
Joint	6	1	1	5	1	0	0	0	0	14
Muscle	1	0	0	7	0	0	0	0	0	8
Bursa	0	0	0	1	0	0	0	0	0	1
Fibrous node	0	0	0	1	0	0	0	0	0	1
Blood	3	0	0	1	0	0	0	0	0	4
Total	47	118	34	155	201	57	6	2	4	624

acute onset recovered, as compared with 14.7 per cent. of the patients who recovered in whom the disease was characterized by an insidious onset, and 16.8 per cent. of the patients manifesting acute symptoms showed end-results which were unimproved or worse, and 20 per cent. of the patients in whom the disease began insidiously remained unimproved or became worse.

TABLE 10.—DURATION OF DISEASE IN RELATION TO END-RESULTS, BASED ON 1917 RETURNS

Duration	Worse or Unimproved	Improved	Practically Recovered or Cured	Dead	No Report	Total
Less than 2 years..	12	36	42	4	39	133
More than 2 years.	67	106	29	13	63	278
Total.....	79	142	71	17	102	411

It is generally accepted that a more favorable result of treatment of an infectious disease will result if early treatment is instituted. This principle is especially applicable to the treatment of chronic infectious arthritis. If the treatment and management which has been described is applied to patients who suffer with chronic infectious arthritis before irremediable anatomic morbid changes have taken place, a majority of the patients will recover or, at any rate, will be vastly improved, and the disease may be brought to a standstill. It will be noted that in the group of patients who were admitted to the clinic within two years of the onset of the disease, forty-two recovered, while of the group of patients who were admitted at a period of more than two years of the onset of the disease only twenty-nine recovered.

TABLE 11.—RELATION OF VACCINE THERAPY TO END-RESULTS, BASED ON 1917 REPORTS

	Worse or Unimproved	Improved or Greatly Improved	Practically Recovered or Cured	Dead	No Report	Total
Vaccine.....	55	89	39	7	39	229
Percentage of total cases...	13.3	21.6	9.4	1.6	9.4	44.7
Percentage of vaccinated...	24.0	38.9	17.0	3.1	17.0	100
Mixed vaccine and serum...	3	6	4	1	4	18
Percentage of total.....	0.73	1.46	0.97	0.27	0.97	4.4
Percentage of treated cases	16.6	33.3	22.2	5.5	22.2	100
No vaccine or serum.....	21	47	28	9	50	164
Percentage of total.....	5.2	11.4	6.8	2.2	14.3	39.9
Percentage of unvaccinated	12.8	28.6	17.0	5.4	36.0	100
Total	79	142	71	17	102	411
Percentage of total.....	16.6	34.6	17.3	4.1	24.8	100

In estimating the comparative results of treatment with vaccines and serum and without these so-called specific therapeutic agents, it will be noted (Table 11) that 229 patients received autogenous vaccines, of whom eighty-nine patients (38.9 per cent.) of those vaccinated were improved, and thirty-nine (17 per cent.) of those vaccinated recovered; that of eighteen patients who received mixed vaccine and serum, six (33.3 per cent.) were improved, and four patients (22.2 per cent.) of those who received serum recovered; that of 164 patients who did not receive either vaccine or serum, forty-seven (28.6 per cent.) were improved and twenty-eight patients (17 per cent.) who were unvaccinated recovered. These statistics confirm and substantiate the opinion which we have expressed on former occasions that specific remedies in the form of bacterial antigens are of little or no value in the treatment of chronic infectious arthritis.

The importance of physical therapy in the treatment of chronic arthritis is shown in Table 12. Of 186 patients who carried out the management described, 114 (61.2 per cent.) were improved, and sixty-one (32.8 per cent.) recovered. Of ninety-two patients who did not carry out the advised management, twenty (21.5 per cent.) improved and five (5.4 per cent.) recovered. Each patient who remained long enough in the hospital was instructed and educated in carrying out feasible and available types of physical therapy in their homes. Emphasis was made of the importance of the daily application of different types of physical exercise and of hydrotherapy when available. Each patient was especially directed to avoid excessive fatigue and to follow periods of exercise with rest in the recumbent posture. Letters were written to the family physician giving the details of the method of management and emphasizing the need and the value of physical therapy daily. In the earlier periods of the work, autogenous bacterial antigens were prepared and sent to the family physician with directions for their use.

TABLE 12.—RELATION OF MANAGEMENT TO END-RESULTS, BASED ON 1917 REPORT

	Worse or Unimproved	Improved	Practically Recovered or Cured	Dead	Total
Carried out management....	11	114	61	8	194
Did not carry out management.....	68	20	5	8	101
No record.....	0	8	5	1	14
Total.....	79	142	71	17	309

The value of the management and of physical therapy in the treatment of these patients was emphasized over and over again by the improvement of patients who returned to the hospital for further management and treatment the second and the third time because they did not improve at home. In practically every instance the failure to improve at home was found to be due to the failure to carry out faithfully the management described because of indifference on the part of the patient and members of the family and, in some instances, because of the lack of interest on the part of the family physician.

TABLE 13.—END-RESULTS, BASED ON ANSWERS TO QUESTIONNAIRE, 1917-1921

Answers to Questionnaire	Total Answers Received	No Answers Received	Worse or Unimproved	Improved and Greatly Improved	Practically Recovered or Cured	Dead
1917.....	309	102	79	142	71	17
Percentage of total.....	75.2	24.8	16.6	34.6	17.3	4.1
Percentage of answers.....	....	....	25.5	46.0	23.0	5.5
1921.....	225	185	51	44	92	39
Percentage of total.....	54.9	45.1	12.4	10.7	22.2	9.4
Percentage of answers.....	....	....	22.7	19.6	40.5	17.3

Table 13 gives the end-result of the treatment of 309 patients who replied to the questionnaire in 1917, and 225 patients who replied in 1921. In 1917, 142 of the 309 patients (46 per cent.) were improved, and seventy-one (23 per cent.) recovered. In 1921, of 225 patients, practically all of whom were included in the

statistics of 1917, forty-four (19.6 per cent.) were improved, and ninety-two (40.5 per cent.) had recovered. It will be noted that in the answers received in 1917, 143 patients (34.6 per cent.) of the total patients of the series were improved, and seventy-one patients (17.3 per cent.) of the total number of patients had recovered.

In estimating the end-results, so far as possible the term "improvement" indicates improvement both anatomic and functional, and the restoration of the patient to the degree which permits of the assumption of life's responsibilities; by "recovery" is meant both anatomic and functional recovery.

CONCLUSION

This clinical investigation confirms and substantiates the present point of view of a majority of clinicians who have had the opportunity to make a careful investigation of chronic deforming arthritis, that it is primarily an infectious disease, and that the infectious micro-organisms which are the cause are usually strains of nonhemolytic streptococci of relatively low virulence, or occasionally strains of nonpyogenic gonococci or even of other bacteria of mild pathogenicity.

The cause of the remarkable transformation of the fibrous tissues which enter into the joint structure and also of muscle tendons, into bone, is an interesting subject for future investigation. If the remarkable results of the animal experiments reported by Oxhausen [4] can be substantiated, it may be possible to apply preventive measures which will obviate these disabling, irremediable secondary morbid changes.

AMYTONIA CONGENITA, COMPLICATED BY ACUTE CHOLECYSTITIS OF TYPHOID ORIGIN

REPORT OF CASE

WILLIAM GERRY MORGAN, M.D.
AND
DANIEL D. V. STUART, JR., M.D.
WASHINGTON, D. C.

History.—A schoolboy aged 7 years, first seen by one of us (W. G. M.), Aug. 6, 1918, complained of difficulty in walking, with recurrent attacks of nausea and vomiting, and loss of weight. The family history was unimportant, excepting for the fact that the parents were first cousins. Two younger children were healthy and of normal development. One younger brother died in infancy of an acute intestinal disease. At the birth of the patient, labor was normal. As an infant he had been breast fed. No convulsions had occurred during infancy. Speech and dentition began at the usual age, and intellectual development always appeared rather above par. During the first year of the patient's life, the tendon reflexes in the legs were noted as being "not normal" by his uncle, a physician. The child sat erect when 7 months old, but made no attempt to walk until 16 months of age. At that time he was given thyroid extract in unknown dosage, and within three weeks was walking. This medication was continued intermittently for the next two years, and his walking and the general muscular tone of the lower extremities improved slowly but steadily up to the time of examination. The patient had always been constipated, and at 3 years of age he had the first of the attacks of gastro-enteric disturbance complained of. From then to the date of examination, they occurred with some regularity every three months. These seizures, unvarying in type, were characterized by sudden onset, fever, flushing of the skin, intense thirst, nausea and vomiting; and their average duration was about twenty-four hours. One attack was accompanied by general convulsions and followed by coma lasting two days. The date of this was uncertain.

Examination.—This revealed only a markedly distended abdomen, with some tenderness in the lower left quadrant. The urine contained a trace of albumin, and there was much undigested meat in the stools. A moderate grade of anemia was present (hemoglobin, 64 per cent.; red corpuscles, 4,050,000; white corpuscles, 5,000). Neurologic examination was not made at this time, but it was noted that the patellar reflexes were absent and that coordination in the lower extremities was blunted. The case was diagnosed as one of chronic constipation, with recurrent attacks of acetonemia. Under dietary regulation, with exercises in bowel control and a gymnastic regimen, the attacks ceased, daily unaided bowel evacuations became the rule, and the child gained in weight and general strength.

Subsequent History.—Two months later (October, 1918), the patient was taken to the Mayo Clinic at Rochester, Minn., on account of the difficulty in walking. A copy of the report brought back with him from that institution gives the diagnosis as "muscular dystrophy; probably congenital defect." Avoidance of fatigue was advised, and the statement made that prognosis was "probably good."

The child's general state remained good under occasional observation (W. G. M.) until Feb. 24, 1921. At that time he developed recurrent attacks of sharp abdominal pain referred to the right costal border, accompanied by some vomiting and a return of constipation. Two days later, slight elevation of temperature was present, but no leukocytosis. The condition was regarded as an acute cholecystitis, and cleared up in one week. March 12, the patient was again taken ill with headache, distress in the umbilical region, and general malaise. The temperature at this time was slightly elevated, and the leukocyte count was 6,000. The tentative diagnosis of typhoid fever was made, and blood was taken for a Widal test. Two days later he had an attack of epistaxis, the leukocytes dropped to 5,000, and the Widal test was reported positive. The disease pursued an uneventful course to recovery.

Neurologic Examination.—May 16, the child, now 9 years and 8 months old, was first examined neurologically by one of us (D. D. V. S.) He showed a striking freedom from the muscular asthenia which might be expected to follow an acute infectious disease, and this had been noticed by his parents immediately on his getting up. His father stated that there had been a slow but progressive gain in strength of the muscles of the child's back and legs since the gymnastic exercises mentioned had been started.

The cranial nerves were normal throughout.

There was slight swaying; the patient stood with marked lordosis.

The gait was waddling. The general movements of the left leg in walking were weaker than those of the right leg, but the right foot toed in because of greater weakness of the peroneal group on that side.

Examination of the superficial reflexes disclosed the pharyngeal, abdominal (upper and lower) and cremasteric active and equal on the two sides; plantar stimulation was followed by plantar flexion on both sides; descending tibial irritation was followed by dorsal flexion on both sides.

Examination of the deep reflexes disclosed the jaw active; biceps, triceps and wrist, active and equal on the two sides; the knee-kicks were not obtained; the ankle-jerk was active on the right, and somewhat diminished on the left.

There was weakness of the lumbar group and of all musculature of the lower extremities, especially marked in the right peroneal group. There was marked hypermobility of the hips, knees and ankles. There was no weakness of the face, upper extremities or anterior trunk muscles, and no atrophies or psuedohypertrophies. There was a rhythmic coarse tremor of the extended fingers. Electric examination of the affected mucles could not be made at this time, but later (June 2) a decided reduction of stimulability by both currents was noted. Reaction of degeneration was not present

4. Oxhausen, G.: Ueber einfache aseptiche Knochen und Knorpelenkrose, Chondritis desiccans und Arthritis deformans, Verhandl. d. deutsch Gesellsch. f. Chir., Berlin **62**: 40 (Part 1), 446 (Part 2) 1912.

All tests were very clumsily performed in both lower extremities, probably because of weakness. There was no incoordination in the upper extremities.

There were no psychotic symptoms. Intellectual development was apparently normal; no psychometric tests were used.

There was no disturbance of the sensory status.

The neurologic diagnosis was amyotonia congenita (Oppenheim's disease).

COMMENT

This condition is uncommon enough to be considered something of a curiosity. Holmes[1] states that up to 1920 approximately 125 cases had been reported in the twenty years since Oppenheim first described the disease. Since the appearance of Holmes' work, a fairly extended search has resulted in the finding of only six further reports.

According to the classical description, amyotonia congenita is a condition present at birth or noted when the child first attempts to walk; it is characterized by atony, flaccidity, and weakness (not paralysis) of the muscles of the lower extremities and sometimes of the trunk. The musculature of the head and upper extremities has been reported as involved in only a very few cases, though there seems to be no anatomic reason why it should escape. The tendon reflexes are, of course, absent or diminished; and the affected muscles show marked quantitative reduction of excitability with both faradism and galvanism; but the reaction of degeneration is never found. They do not undergo any pseudohypertrophy. The lack of tone is so pronounced that the legs can usually be moved about in a flail-like manner; and the weakness may be of any degree, from just enough to produce a loose waddling gait and difficulty in rising, to a state so extreme as to prevent any voluntary movement. The disease is chiefly to be distinguished from the progressive muscular dystrophies and the spinal form of progressive muscular atrophy. It does not appear to be hereditary, nor is there any special familial tendency to its occurrence. With regard to prognosis, these patients seem especially prone to the development of respiratory troubles, in which involvement of the trunk muscles may play a part. Aside from this possibility, a slow but steady improvement has generally been noted.

As to the pathology, there is a distinct cleavage of opinion, perhaps because few cases have come to necropsy. Oppenheim himself states in his textbook that he believes the symptoms to be due to a lack of development of the muscle fibers and perhaps of the anterior horn cells of the cord; not a degeneration. On the other hand, the condition has been regarded as an actively degenerative one, notably by Spiller and Griffith,[2] who studied a case in 1911, and by Kaumheimer,[3] whose investigations were made in 1913. The latest pathologic findings of which we have record are embodied in the paper by Holmes already referred to. His patient died of pneumonia, and he makes a full report, taking up the histopathology of the brain, spinal cord, blood vessels and muscles. He found no degenerative changes in the tissues studied, and explains his findings on the assumption of "a delayed or retarded embryologic development, affecting certain motor cells of the anterior horns and certain groups of developing muscle cells (fibers)." He further states that "no anomaly of the peripheral nerves, muscles, spindles or blood vessels was recognized."

In the case which we report, the neurologic examination summarized above differs from that made at the Mayo Clinic, two years and nine months previously, in two important respects. On the earlier date the child was unable to stand on his left foot without support, and his ankle jerks were indefinite. At the later examination he could stand on either foot unaided, and the ankle jerks were definitely present, though unequal. This clinical fact is of interest, since it is exactly what might be expected if Oppenheim's (and Holmes') conclusions are correct: that is, if the condition represents not a degenerative disease process, but simply a state of delayed or retarded neural and muscular development. The further fact that improvement had been most rapid in the two years immediately preceding the later examination, during which time the child had been undergoing physical training aimed at developing his muscles, also fits in with this hypothesis.

Two features in this case bring up interesting queries. First, was the improvement between the ages of 16 months and 3 years the result of the thyroid extract that the child was then taking, acting as a stimulant to his general development? Second, was the unusual sequence of an acute gallbladder inflammation, followed in less than two weeks by a typical attack of typhoid fever, due to a definite relationship between those two conditions? The first question we leave open. It will be noted that while the gain in muscle strength and control had been steady throughout, it began suddenly within three weeks after administration of the thyroid extract was started. This, however, proves nothing. Had circumstances allowed, following the second neurologic examination metabolic studies would have been made on the child and thyroid extract again given to him. Unfortunately, this course was impracticable. As to the second query, such a relationship is assumed to have existed; and our reasons for reporting the case are to call attention to this, and also to emphasize the need of distinguishing amyotonia congenita from the other clinical pictures grouped under the head of the muscular dystrophies. This is of the greatest importance, since in the other dystrophies the outlook for even arrest of the process is uniformly bad; while Oppenheim's disease, on the other hand, appears to offer a relatively good prognosis.

1728 Connecticut Avenue.

1. Holmes, J. B.: Amyotonia Congenita, Am. J. Dis. Child. **20**: 405 (Nov.) 1920.
2. Spiller, W. G., and Griffith, J. P. C.: Amyotonia Congenita: A Clinical and Pathological Study, Tr. Am. Pediat. Soc. **23**: 366, 1911.
3. Kaumheimer, L.: Zur Pathologie und Klinik der Myatonia Congenita (Oppenheim), Jahrb. f. Kinderh., 1913.

The Evolution of Chemical Terminology.—"It is possible" according to Couch (*Am. J. Pharmacy*, February, 1922), "to remedy a large part of the existing indefiniteness in the use of chemical terms." It requires only an agreement among those who employ the terms to limit certain expressions to certain specific meanings. With this desirable end in view, he considers a number of loosely defined terms, discusses the manner in which they are now used, and presents the objections to this usage. He recommends that the term "coagulation" be defined as "an irreversible process of colloid chemistry; it consists of the complete or partial separation of the disperse from the continuous phase as the result of the chemical alteration of the system. The altered disperse phase is precipitated as a nonrigid, insoluble, solid mass"; while "flocculation" should be considered "a process of colloid chemistry in which the complete or partial separation of the phases is effected through an alteration of the physical condition of the disperse phase, either by a diminishing of its degree of dispersion or by a modifying of the electrical equilibrium of the system."

DIAGNOSTIC VALUE OF DETERMINING VITAL CAPACITY OF LUNGS OF CHILDREN *

MAY G. WILSON, M.D.
AND
DAYTON J. EDWARDS, PH.D.
NEW YORK

Recent investigations by Dreyer,[1] Peabody [2] and others have confirmed the original observations recorded by Hutchinson [3] in 1846 as to the clinical significance of diminished lung capacity in patients with heart and lung disease. In a previous investigation, we [4] recorded similar observations in children.

The accumulating evidence which shows the clinical importance of determining the vital capacity would indicate that the spirometer may well be added to the increasing armamentarium of instruments of precision in clinical medicine. To establish a final diagnosis, however, it should be remembered that any objective method or test must be correlated with and subordinated to a complete history and physical examination.

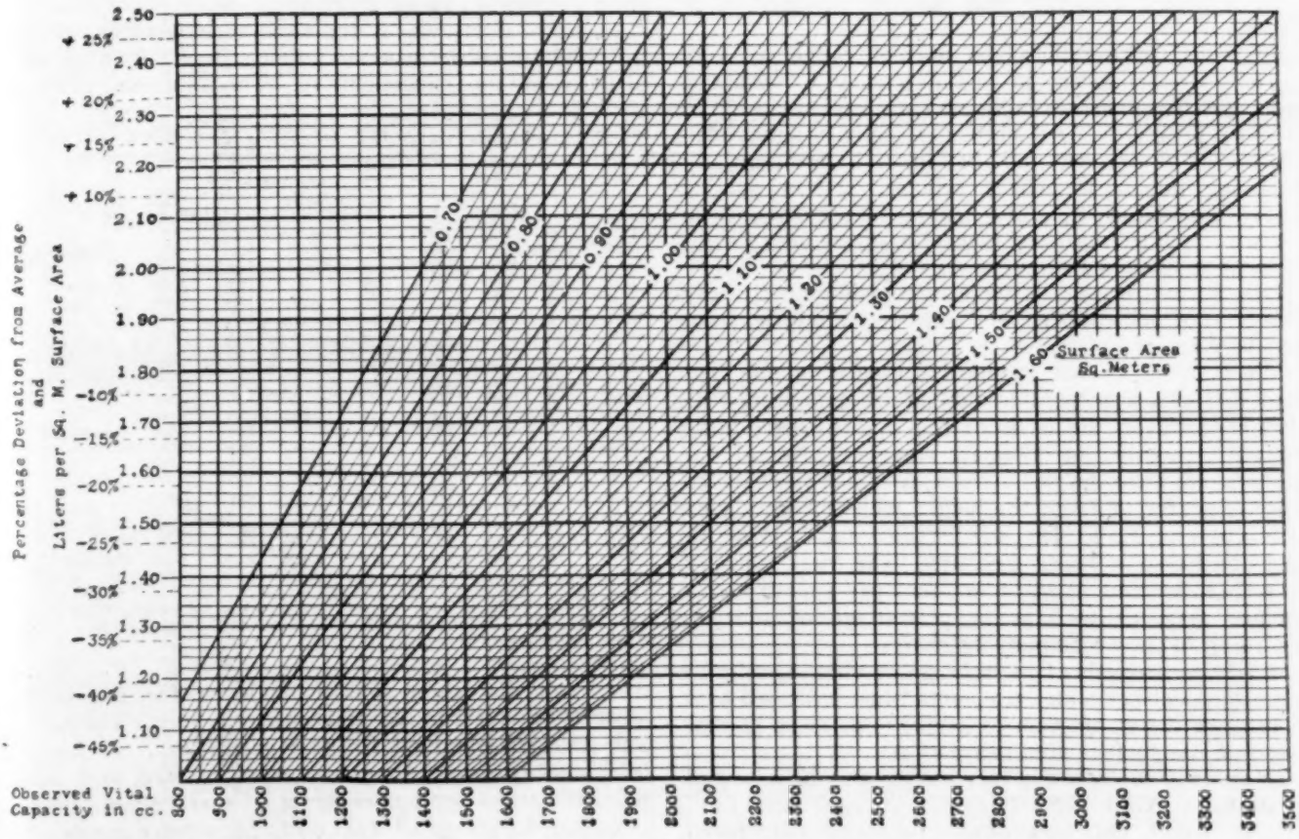
Again, before the determination of vital capacity can be of any practical clinical value, it is essential to have available for the clinician: (1) a standardized method and technic which is not time consuming, and as simple as accuracy permits; (2) an accurate normal standard indicating the normal range, and (3) the evaluation of the various factors which may be expected to influence vital capacity measurement.

The investigation here reported was undertaken with these objects in view, and is limited to a study of children from 6 to 16 years of age, inclusive, supplementing the preliminary investigation.[4] For similar studies in adults the reader is referred to the excellent investigations of Dreyer,[5] Van Slyke,[6] Peabody [7] and West.[8]

METHOD AND TECHNIC

From a comparative study of various types of spirometers in use,[9] we have concluded that a spirometer according to the specifications described by Peabody [10] permits of greater accuracy and is best adapted for use in children. The adjustment of a self-recording dial is of great advantage, since it permits the entire attention to be given to the proper performance of the test.

Contrary to the more or less general opinion, children use the spirometer with surprising ease and intelligence. A child of 6 years, of average mentality, in the majority of instances requires only a single demonstration. The



Graphic method of reducing observed vital capacity in cubic centimeters to liters per square meter of surface area.

* From the Departments of Pediatrics and Physiology, Cornell University Medical College.

1. Dreyer, Georges: Lancet **2**: 227 (Aug. 9) 1919.
2. Peabody, F. W.: Relation of Vital Capacity of Lungs to Clinical Condition of Patients with Heart Disease, J. A. M. A. **69**: 1954 (Dec. 8) 1917.
3. Hutchinson, J.: The Capacity of the Lungs, Lancet **1**: 630, 1846.
4. Wilson, May G., and Edwards, Dayton J.: Standards for Normal Vital Capacity for Children: The Lung Capacity in Certain Intrathoracic Conditions, Am. J. Dis. Child. **22**: 443 (Nov.) 1921.
5. Dreyer, Georges: The Assessment of Physical Fitness, London, Cassell & Co., 1920.
6. Van Slyke, D. D., and Lundsgaard, C.: J. Exper. Med. **27**: 65 (Jan.) 1918.
7. Peabody, F. W., and Wentworth, J. A.: Clinical Studies on Respiration, Arch. Int. Med. **20**: 443 (Sept.) 1917.
8. West, H. F.: Clinical Studies on Respiration: Comparison of Various Standards for Normal Vital Capacity of Lungs, Arch. Int. Med. **25**: 306 (March) 1920.
9. Edwards, D. J., and Wilson, May G.: An Analysis of Some of the Factors of Variability in the Vital Capacity Measurement of Children, to be published.
10. Peabody, F. W.: Clinical Studies on the Respiration, Arch. Int. Med. **20**: 437 (Sept.) 1917.

number of cubic centimeters registered will be within fifty on repeated satisfactory trials. Certain precautions must be observed. Only one inspiration should be taken, and this should be the fullest and deepest inspiration; it should also be completely expelled. Children are likely to try too hard and fix the chest, holding the breath, so that only the air in the upper passages is expelled. Or they are likely to remove the mouthpiece before the chest is completely emptied. If one is on the lookout, these difficulties may be overcome with a little coaching. The following instructions should be given: The child is seated comfortably erect with shoulders back, and is instructed to take the deepest possible inspiration (breath), and to blow it immediately into the spirometer (the mouthpiece being held tightly between the lips), until all the breath is gone (empty feeling). The highest number of cubic centimeters reached in from three to five satisfactory tests is accepted as the vital capacity in cubic centimeters.

In order to establish the normal range of vital capacity for children, it was necessary to obtain a representative group of subjects from various localities of New York City. All subjects selected for measurement were in apparent good health, and were regularly attending public or private schools. Every subject passed a recent routine physical examination, and no one was included with any clinical or auscultatory signs of lung or heart disease.

Our normal standards were obtained from a study of a total of 362 children, 189 boys and 173 girls, from 6 to 16 years of age, inclusive.

We adopted as our standard for relating the vital capacity measurement the method of expressing the vital capacity on the basis of the square meter body surface. In order to eliminate any mathematical calculation, we have devised a chart by which the surface area being found from the height weight formula of Delafield and E. F. Du Bois,[11] the vital capacity in cubic centimeters being measured; the vital capacity may then be read at sight in liters per square meter surface area, as well as in percentage of normal, according to the accompanying chart.

A further analysis of the relation of vital capacity to other physical body measurements [9] has indicated that in practice the correlation to height is as close as that based on the surface area calculation.

In order to evaluate the factors that may be expected to influence vital capacity, such as age, sex, race, weight, height, nutrition, development, activity, social status and environment, we shall first consider the salient characteristics of the individual groups selected for study.

RESULTS OF INVESTIGATION

Public School Group.—This group included the eighty-five subjects, forty-three boys and forty-two girls, from 6 to 16 years of age, from the previous investigation.[4] These children may be considered representative of the average New York City public school child from homes of moderate income, chiefly of Irish and American nativity. The vital capacity measurements were taken during the school session in the months of November and December. A certain number of these subjects had repeated trials extending over a year, at periodic intervals. These findings gave evidence of the constancy of the vital capacity measurement in children, other things being equal. The normal standard obtained for this group was 1.90 liters per square meter surface for boys, and 1.84 liters per square meter surface for girls, giving a combined average of 1.87 liters per square meter surface area. The lowest individual reading observed was 1.41 liters and the highest 2.50 liters per unit surface (Table 1).

Summer Play School Group.[12]—The group investigated consisted of 150 public school children, eighty-five boys and sixty-five girls, from 6 to 16 years of age, attending a summer play school. These children were mainly from poor Italian and Irish homes, representative of the dispensary type of child in New York City. Of this group, 27 per cent. were found to be 10 per cent. or more underweight for height. These children were tested during the months of July and August, each child receiving two or more tests on successive days. A group of thirty was tested again in November, when the children had returned to public school. An analysis of the results was inconclusive. The impression, however, was that there was a tendency for the vital capacity to be less in November than in July. The normal standard obtained for this group was, for boys, 2.02 liters per square meter of surface area, and, for girls, 1.97 liters per square meter of surface area, with a combined average of 2.00 liters per square meter of surface area. The lowest individual reading observed was 1.53 liters, and the highest, 2.51 liters per unit surface (Table 2). In passing, it is interesting to note that these children were very active, spending the greater part of the day outdoors.

TABLE 1.—VITAL CAPACITY OF PUBLIC SCHOOL GROUP *

Case No.	Age, Years	Weight (net), Kg.	Height, Cm.	Liters per Square Meter of Surface: Boys	Liters per Square Meter of Surface: Girls	C.c. per Centimeter of Height, C.c.	Vital Capacity, C.c.	Comment
1 A.	7	27	131	1.97	....	15.0	1,975	
6 B.	8	32	132	2.18	....	17.7	2,350	Athletic
7 B.	8	25	125	1.60	....	12.0	1,500	Colored
19 G.	8	24	127	1.95	....	14.1	1,800	
46 M.	10	28	122	2.09	....	16.5	2,025	
51 O.	10	29	135	1.86	....	14.6	1,975	Active
64 S.	11	24	131	1.95	....	14.3	1,875	
65 S.	12	33	135	2.00	....	16.3	2,200	
42 M.	13	34	149	2.50	....	18.3	2,900	
16 G.	7	19	111	....	1.87	12.5	1,400	
38 M.	7	28	128	....	1.70	13.2	1,700	Overweight
43 M.	9	28	134	....	1.94	14.9	2,000	
61 S.	10	28	128	....	1.87	15.6	2,000	
57 R.	11	31	139	....	1.45	11.5	1,600	
63 S.	12	34	147	....	2.00	16.3	2,400	
74 D.	13	41	152	....	1.74	14.8	2,255	
77 M.	14	46	150	....	2.01	18.3	2,450	
50 O.	14	54	165	....	1.88	18.1	3,000	
15 G.	15	50	158	....	1.62	16.2	2,575	Colored

* Selected from a total of eighty-five cases. Average, forty-four boys, 1.90 liters; forty-one girls, 1.84 liters; combined, 1.87 liters per square meter of surface.

Private School Group.—This group was selected from two private schools in New York City, a representative group of 127 children, sixty-seven boys and sixty girls, from 6 to 16 years of age, inclusive, from homes of the better social strata, and residing in the best sections of the city and suburbs. These children may be considered typical of those met in private practice. Those from 12 to 16 years of age were particularly well developed, and a large percentage were very active in school athletics. The vital capacity measurements were taken during the school session in

11. Du Bois, Delafield, and Du Bois, E. F.: The Measurement of the Surface Area of Man, Arch. Int. Med. **15**: 868 (June) 1915; A Formula to Estimate the Approximate Surface Area If Height and Weight Be Known, ibid. **17**: 863 (June) 1916 (graphic chart for determining surface area at a glance).

12. These children were observed at the Model Summer Play School conducted by the Federation for Child Study of the Ethical Culture Society, New York.

the months of November and December. The normal standard obtained for boys was 2.01 liters per square meter of surface area, and for girls, 1.81 liters per square meter surface area, giving a combined average of 1.90 liters per square meter of surface area. The lowest individual reading observed was 1.33 liters, and the highest 3.08 liters per unit surface (Table 3).

TABLE 2.—VITAL CAPACITY OF SUMMER PLAY SCHOOL GROUP *

Case No.	Age, Years	Weight (net) Kg.	Height, Cm.	Liters per Square Meter of Surface: Boys	Liters per Square Meter of Surface: Girls	C.c. per Centimeter of Height, C.c.	Vital Capacity, C.c.	Comment
70	7	21	107	2.00	....	14.0	1,500	
72	7	18	110	1.81	....	12.5	1,375	
84	8	25	127	2.18	....	16.4	2,100	
76	8	23	117	1.88	....	13.6	1,600	
69	8	22	112	2.00	....	16.0	1,600	
79	9	22	125	1.81	....	14.0	1,800	Underweight
78	9	21	122	2.23	....	15.5	1,900	Underweight
65	9	21	120	2.23	....	15.8	1,900	Underweight
52	10	25	123	1.95	....	15.0	1,850	
30	10	36	140	....	1.94	16.4	2,300	
26	10	23	130	....	1.95	14.6	1,800	Underweight
44	11	30	130	....	1.53	12.3	1,600	
31	11	28	132	....	1.74	13.6	1,800	Colored
17	11	47	142	....	1.81	16.1	2,400	Overweight
6	12	59	120	1.92	....	14.5	1,750	Undersize
13	12	30	140	2.00	....	14.2	2,200	Underweight
9	13	29	145	2.02	....	15.5	2,250	Underweight
83	14	38	145	2.20	....	19.5	2,850	
17	14	34	135	2.03	....	15.5	2,300	
4	14	30	135	2.23	....	17.4	2,350	
12	16	43	157	1.98	....	16.1	2,700	
4	13	33	142	....	2.16	17.2	2,450	
5	13	38	142	....	2.11	18.3	2,650	
7	13	35	147	....	1.80	14.4	2,200	
8	12	24	127	....	2.15	15.7	2,000	
63	12	40	140	....	2.09	18.5	2,600	Overweight
45	9	19	116	....	2.00	13.4	1,600	
50	8	22	120	....	1.88	13.3	1,600	
65	8	22	125	....	2.06	14.4	1,800	

* Selected from a total of 150 cases. Average, eighty-five boys, 2.02 liters; sixty-five girls, 1.97 liters; combined average, 2.02 liters per square meter of surface.

TABLE 3.—VITAL CAPACITY OF PRIVATE SCHOOL GROUP *

Case No.	Age, Years	Weight (net) Kg.	Height, Cm.	Liters per Square Meter of Surface: Boys	Liters per Square Meter of Surface: Girls	C.c. per Centimeter of Height, C.c.	Vital Capacity, C.c.	Comment
1 A.	12	42	155	....	2.00	17.4	2,700	
2 A.	10	28	127	....	1.82	13.3	1,800	
5 B.	12	50	155	1.69	1.54	14.5	2,250	Overweight
6 B.	7	23	122	1.84	....	13.5	1,650	
9 C.	11	42	146	....	1.85	16.4	2,400	Overweight
11 C.	10	28	138	....	1.82	13.7	1,900	Underweight
15 C.	9	20	142	2.12	....	14.1	2,000	Underweight
25 J.	8	20	116	1.60	....	11.2	1,300	
13 C.	7	26	128	1.88	....	14.0	1,800	
39W.	9	37	137	....	1.62	13.8	1,900	Overweight
1 g.	8	33	137	....	1.69	13.5	1,850	
2 b.	9	22	129	1.96	....	13.3	1,725	Underweight
8 b.	10	40	150	1.75	....	16.0	2,400	Overweight
9 g.	11	27	142	....	1.95	14.3	2,025	
12 b.	11	33	147	2.41	....	18.8	2,775	Underweight
28 b.	13	35	145	2.33	....	19.3	2,800	
12 g.	13	41	157	....	2.38	20.0	3,250	Underweight
16 g.	14	46	157	....	2.12	19.1	3,000	
19 g.	14	69	173	....	1.63	16.7	2,900	Overweight
29 b.	14	42	160	2.25	....	19.2	3,125	
30 b.	14	56	170	2.50	....	24.1	4,100	Athlete
31 b.	14	54	167	2.86	....	27.0	4,600	Athlete
33 b.	15	51	167	3.21	....	29.0	5,000	Athlete
35 b.	15	44	162	2.09	....	18.5	3,000	
24 g.	15	66	175	....	1.83	13.2	3,300	Overweight
28 g.	15	69	178	....	2.21	23.0	4,100	Athlete
36 g.	16	46	150	....	2.04	18.6	2,800	
39 g.	16	54	159	....	2.13	20.6	3,300	
37 b.	16	51	162	3.08	....	28.0	3,225	
10 g.	11	36	137	....	1.40	11.6	1,600	

* Selected from a total of 127 cases. Average, sixty boys, 2.01 liters; sixty-seven girls, 1.81 liters; combined average, 1.90 liters per square meter of surface.

Group of Colored Children.—We have also observed, but not included in our normal totals, thirty-eight average normal colored children, from 8 to 14 years of age. These children were very well developed, of good nutrition, and had passed a recent routine physical examination. The lowest individual reading observed was 1.33 liters, and the highest, 2.09 liters per unit surface. The normal average obtained for the group was 1.57 liters per square meter of surface area, a value strikingly below that obtained for any of the other groups. These findings suggest a possible racial factor. In passing, it is important to remember that this race is particularly subject to tuberculosis. The significance of this apparent diminished lung capacity will be further considered (Table 4).

Normal Range of Vital Capacity.—A study of the combined vital capacity measurements of a representative group of 362 average normal children, from 6 to 16 years of age, reveals a combined average of 1.93 liters per square meter of surface area, with a value of 1.99 liters for boys, and 1.88 liters for girls. Allowing a 10 per cent. plus or minus deviation, we have a normal range of 1.74 liters per square meter of surface area, and 2.12 liters per square meter of surface area, 60 per cent. coming within the plus or minus deviation. There was a tendency for the younger children to give values at the lower limits of the normal range, and older children at the upper (Table 5).

TABLE 4.—VITAL CAPACITY OF GROUP OF COLORED CHILDREN *

Case No.	Age	Liters per Square Meter of Surface: Boys	Liters per Square Meter of Surface: Girls
1 G.	7	1.48	....
2 J.	10	1.52	....
3 R.	14	2.09	....
4 M.	9	....	1.36
5 M.	11	....	1.33
6 G.	9	1.40	....
7 S.	9	1.60	....
8 C.	11	1.47	....
9 G.	9	1.74	....
10 L.	12	1.66	....
12 G.	12	1.40	....
11 H.	11	1.66	....
13 D.	15	1.89	....
14 B.	13	1.88	....
15 P.	11	....	1.48
16 G.	11	....	1.62
17 C.	10	....	1.51
18 M.	10	....	1.56
19 E.	10	....	1.54
20 P.	8	....	1.68
21 D.	10	....	1.64
22 F.	11	....	1.59
23 H.	6	....	1.47
24 H.	8	1.70	....
25 H.	11	....	1.68
26 H.	10	....	1.46
27 R.	9	....	1.52
28 R.	11	....	1.51
29 A.	11	....	1.81
30 M.	8	....	1.46
31 D.	9	....	1.54
32 T.	7	1.51	....
33 L.	13	....	1.51
34 L.	12	....	1.60
35 H.	12	....	1.43
36 S.	11	....	1.38
37 M.	9	....	1.42
38 D.	9	....	1.66

* The average of 38 subjects was: boys, 1.64 liters; girls, 1.53 liters; combined average, 1.57 liters per square meter of surface.

We have also obtained the average value of 15.5 c.c. for each centimeter in height from the relation of vital capacity to a unit of body height. A comparative analysis of the influence on vital capacity of weight for height revealed, for forty-two children 10 per cent. or more underweight for height, an average value of 2.08 liters per square meter surface area; while the average value obtained for nineteen children 10 per cent. or more overweight for height gave an average of 1.75 liters per square meter surface area. However,

relating the vital capacity measurement to a unit of body height, rather than surface area, normal values were revealed, indicating that the apparent reduction exhibited is simply a difference in the surface area method when applied to subjects overweight for height.

COMMENT

The evaluation of the various factors expected to influence vital capacity measurement in average normal children may first best be considered in a comparison of the individual groups observed. A comparison of the normal standards obtained for the respective groups shows little appreciable difference between children from public and private schools, particularly in children under 12 years of age. One may therefore conclude that poverty, environment and social status, with the ensuing advantages and disadvantages, do not seem to influence the lung capacity of children growing up in these respective environments.

The average vital capacity obtained for the play school group of 2.00 liters per square meter of surface area is greater than for either of the other groups. However, it must be remembered that this group was tested in the summer, when the children were particularly active.

Observations of the influence of underweight and overweight for height on the vital capacity measurement revealed, on an analysis of children that were 10 per cent. underweight, no reduction in vital capacity; while a similar analysis of children 10 per cent. or more overweight for height revealed an apparent reduction of vital capacity, as related to a unit of body surface.

Of interest are the high values obtained in boys and girls approaching adult size and development. These values were within the normal range obtained by West in adults. Some of these subjects who took a particularly active part in school athletics revealed values from 10 to 15 per cent. greater than the average normal established (Table 3).

It is, however, the low values observed in individual subjects in all the groups studied, and particularly noted in the colored group, that is of paramount importance. Are we to consider these low values to be the normal incidence in a study of average normal children, or may there be another explanation?

TABLE 5.—A COMPARISON OF VITAL CAPACITY MEASUREMENT OF INDIVIDUAL GROUPS OF A TOTAL OF THREE HUNDRED AND SIXTY-TWO CHILDREN

Group	No. of Boys	No. of Girls	Vital Capacity Liters per 10% Deviation Sq. Meter				
			Boys	Girls	Combined	Minus	Plus
Public school..	43	42	1.90	1.84	1.87	23	3
Play school....	85	65	2.02	1.97	2.00	20	34
Private school	60	67	2.01	1.81	1.90	20	2
Total, 362....	189	173	1.99	1.88	1.93	89 (25%)	57 (15%)

We have indicated in a preliminary investigation[4] the possible significance of extensive tracheobronchial adenopathy as accounting for the individual low values obtained in that study. This problem has been further investigated, and will be the subject of a separate communication. We may, however, state that we believe that a reduction of vital capacity of more than 15 per cent. of the average normal established should signal a child out for more careful physical examination and roentgenographic study.

In order fully to appreciate the practical value of a normal vital capacity measurement, we have included a summary of the various pulmonary and cardiac conditions that we have found to reveal a diminished lung capacity in children. Repeated vital capacity measurements in these conditions were found to vary with the clinical course of the disease, and to be of prognostic value. It is evident from this that a vital capacity measurement, once recorded on routine physical examination, might later prove of great value (Table 6).

TABLE 6.—SUMMARY OF CLINICAL CONDITIONS THAT REVEAL DIMINISHED VITAL CAPACITY IN CHILDREN[4]

Diagnosis	Reduction of Normal Vital Capacity
Tracheobronchial adenopathy	From 20 to 30 per cent.
Acute bronchitis	From 10 to 20 per cent.
Bronchial asthma (between attacks)	From 0 to 30 per cent.
Emphysema	From 10 to 15 per cent.
Pleurisy with effusion	From 30 to 40 per cent.
Lobar pneumonia	From 40 to 50 per cent.
Pulmonary tuberculosis	From 30 to 50 per cent.
Organic heart disease:	
Class 1: Normal exercise tolerance	From 0 to 3 per cent.
Class 2: Diminished exercise tolerance	From 20 to 35 per cent.
Class 3: Cardiac failure	From 35 to 80 per cent.

SUMMARY

1. A simple method and technic was adopted for the determination of vital capacity in children from 6 to 16 years of age.

2. A normal standard of 1.93 liters per square meter of surface area, allowing a plus or minus 10 per cent. deviation (giving a normal range of from 1.74 to 2.12 liters) has been established from a study of a representative group of 362 children.

3. The vital capacity may be read off a chart in liters per square meter of surface area, and in percentage of normal at sight.

4. A normal standard of 15.5 c.c. for each centimeter in height has also been indicated as another method of relating the vital capacity measurement.

5. An analysis of some of the factors expected to influence the vital capacity measurement has revealed that:

(*a*) Boys show a vital capacity 6 per cent. greater than girls.

(*b*) Extremes of age give values at the lower and higher limits of the normal range established.

(*c*) The colored race shows a definitely lowered vital capacity.

(*d*) Poverty, environment and social status do not seem appreciably to influence the lung capacity.

(*e*) Activity and athletics tend to increase the vital capacity.

(*f*) Malnutrition and underweight for height do not lower the vital capacity.

(*g*) Overweight for height reveals an apparent reduction of vital capacity per square meter of surface area.

(*h*) Vital capacity measurement is a fairly constant measurement.

(*i*) A reduction of vital capacity measurement of 15 per cent. or more from the average normal standard should signal the child out for further physical and roentgenographic examination.

CONCLUSIONS

1. Vital capacity measurements should be recorded on routine physical examination.

2. The determination of vital capacity of the lungs in children is indicated as a practical and valuable diagnostic measure.

616 Madison Avenue.

CAROTINOID PIGMENTATION OF THE SKIN RESULTING FROM A VEGETARIAN DIET *

HIROTOSHI HASHIMOTO, M.D.
SAPPORO, JAPAN

Hess and Myers [1] described the occurrence of a yellow discoloration of the skin of the body, with the presence of carotin in the blood of children fed on a diet containing carrots. Head and Johnson [2] reported a similar occurrence in an adult who had eaten considerable quantities of carrots. The latter authors referred exhaustively to the articles concerning the carotin pigmentation of the skin that had appeared in English and German literature.

In Japanese literature we have no description of a yellow pigmentation of the skin resulting from a diet containing carrots; but the fact that a vegetarian diet may cause a yellow discoloration of the skin has long been known among physicians in Japan. Baelz [3] (1896) was the first to call attention to the golden-yellow discoloration of the skin ("aurantiasis cutis") developing as the result of eating large quantities of "mikan" (*Citrus nobilis* Lour., var. *microcarpa* Hassk., a kind of orange produced in Japan). He noted that the palms of the hands and the soles of the feet are tinted usually more heavily than other portions of the body, and he supposed that the horny layer of the epidermis, which is thicker in the above-mentioned portions of the body than others, may have a specific affinity for the yellow pigment of mikan present in the circulating blood.

A number of physicians have reported similar cases (Arima, 1896; Sano, 1900; Watanabe, Sato, Morita, 1903; Nagahama, 1904; Shishido, 1905; Oishi, 1906; Ono, 1906; Dohi, 1910). Nagahama and Shishido stated that an intense pigmentation of the palms of the hands and the soles of the feet is dependent partly on intense skin secretion occurring in these sites. Dohi and Ono examined microscopically a section of the skin showing aurantiasis, and they found only the horny layer of the epidermis to be tinted yellowish. Ishikawa, Okada and Yamada (1915) reported that orange-yellow pigmentation of the skin similar to that resulting from eating mikan had been observed in some people in Hokkaido who had been eating heavily of squashes. Kashida (1917) reported a case of aurantiasis cutis resulting from eating much laver. Prof. K. Miura [4] has stated that orange-yellow pigmentation of the skin, which had been described under the term aurantiasis cutis of Baelz, is due to coloring of the subcutaneous adipose tissue with carotin present in mikan, squash, laver, etc., owing to the affinity of fats for carotinoids, and he noted that the term "carotinosis" is more nearly exact than "aurantiasis" to express the true nature of this pigmentation. Oi (1918) reported three cases of aurantiasis cutis resulting from the liberal use of cucumbers produced in Formosa.

I have recently observed more than thirty-five cases showing a yellow discoloration of the skin after the eating of unusual amounts of squash. Here in Hokkaido, the northern island of Japan, where the yield of rice is not so great as in the mainland, farmers are in the habit of eating large amounts of bald barley, potatoes, legumes, squashes, etc., as substitutes for rice.[5] In the fall they usually eat squash, which is produced on their own farms, as freely as if it were the principal food of the season. Since the beginning of October and most frequently toward the end of the month I have noticed marked yellow discoloration of the skin in some of the patients who came up from the country to visit me. I have never encountered any similar cases in the city inhabitants. The majority of those who showed the squash pigmentation of the skin were farmers, aged from 20 to 40, working daily so hard on the farm that large amounts of carbohydrates were needed as a source of energy. The occurrence of the squash pigmentation of the skin, however, is not confined to farmers of these ages. Any one who eats heartily of squash may show a yellow discoloration of the skin.[6] An idiot, aged 3 years, and a man, aged 50, following a sedentary occupation and suffering from general paralysis, have shown the skin pigmentation; both of them had been eating large amounts of squash because of an abnormal appetite for it.

Having observed carefully all these cases of squash pigmentation of the skin, I have ascertained that this pigmentation is the same as that described in English and German literature as being caused by the liberal use of carrots in the diet. Some years ago at Professor Miura's medical clinic in Tokyo, I observed some cases of mikan pigmentation of the skin. And now I affirm that there is no difference in any respect between the skin pigmentation due to squash and that due to mikan. The palms of the hands, the soles of the feet, the forearms, and the nasolabial folds were more heavily tinted yellow than other parts of the body, whereas the sclerae were not affected. The color varied from a canary yellow to a deep orange gold. The condition may be easily differentiated from jaundice by the difference in the localization of the discoloration: The pigments of squash or mikan color most intensely such portions of the body as would be least stained in the case of jaundice.[7] Furthermore, in the case of squash or mikan pigmentation there is no itching of the skin, general malaise, fever, etc. When squash is removed from the daily diet, the yellow pigmentation of the skin disappears slowly. It is of interest here to note that the palate resumes its normal color most slowly, the yellow discoloration being observed here even several weeks after the disappearance of the pigmentation of the palms of the hands or the soles of the feet.

Squashes (*Cucurbita maxima*), as usually eaten by the people in Hokkaido, contain a large quantity of carotinoids. These are probably absorbed easily from the small intestine. I was able to demonstrate in vitro that these pigments dissolve readily in human duodenal fluid kept at the temperature of 37 C., though not in the least in gastric juice. The pigments thus absorbed from the intestine circulate in the blood. In some

* From the Department of Internal Medicine, Sapporo City Hospital.

1. Hess, A. F., and Myers, V. C.: Carotinemia, a New Clinical Picture, J. A. M. A. **73**: 1743 (Dec. 6) 1919.

2. Head, G. D., and Johnson, R. A.: Carotinemia, Report of a Case in an Adult, Arch. Int. Med. **18**: 286 (Sept.) 1921.

3. Bibliographic articles written in Japanese are not recorded here.

4. Miura, K.: Carotin als Ursache von Aurantiasis Cutis (Baelz), Festschrift gewidmet Keizo Dohi, Tokyo, January, 1917, p. 203.

5. The details are given by Morimoto, K.: The Standard of Living in Japan, Johns Hopkins University Studies in Historical and Political Science, Baltimore, 1918.

6. Dr. Morimoto, professor of economics in the Hokkaido Imperial University, told me that, when, in October, he visited several primary schools in the farming districts of Hokkaido to investigate school lunches eaten by children, he found that the majority of the children had an intense yellow pigmentation of the skin due to the large amount of squash consumed daily.

7. Only the palate, however, is tinted, though not intensely, in both cases.

cases of mikan or squash pigmentation I could ascertain the presence of carotin in the blood drawn by venipuncture. The blood, when allowed to coagulate, gave the serum a gold yellow—more intense in color by far than that of normal blood—which, when examined spectroscopically, showed absorption bands identical with those of carotin. The carotinoids have not been found in the urine excreted by man showing mikan or squash pigmentation of the skin—in such quantity as can be determined by any usual methods. Whether or not these pigments would be excreted into the intestines we do not know. The largest quantity of carotinoids present in the blood seems to be excreted by the skin secretions. The secretion of the sebaceous gland contains much fat. Sweat, even that of the palms of the hands or the soles of the feet, the skin of which portions of the body lacks the sebaceous gland, contains some fat. And, as generally known, fats have a great affinity for the carotinoids. The intense pigmentation of the nasolabial folds, frequently observed, may be due to intense secretion of the sebaceous gland in these sites.

As to the histologic question with respect to what part of the skin is pigmented to cause the yellow discoloration of the skin, as clinically observed, Dohi and Ono, who had examined microscopically a section of the yellow-pigmented human skin in a case of aurantiasis cutis, stated that only the horny layer of the epidermis was found to be tinted diffusely yellowish. The subcutaneous adipose tissue would be actually colored by carotinoids,[8] but, so far as I am aware, the yellow discoloration of the skin, as is observed clinically from the outside of the body, is chiefly due to the coloring of the horny layer of the epidermis, and not that of the layers lying deeper. It is of interest here to refer to the findings of Palmer and Kempster.[9] In the section of the highly pigmented shank skin of fowls, they found microscopically the granules of carotinoids in the corium, along blood capillaries, and most intensely accumulated in the malpighian layer. In a case presenting a marked squash pigmentation I could remove a part of the skin of the highly pigmented palm of the hand—the epidermis that had been separated from the corium as the result of combustio bullosa. After the epidermis had been removed, the corium appeared by no means yellowish, while the epidermis removed showed the yellow coloring of its horny layer. Microscopically examined, the horny layer of the epidermis was seen to be tinted diffusely yellowish, no yellow pigment granules being found. The malpighian layer was free from pigmentation. The fact that the carotinoids color the horny layer of the epidermis, in the case of the carotinoid pigmentation of the skin in human subjects, may account for the intense discoloration of the palms of the hands and the soles of the feet—more intense than in other portions of the body—where the horny layer is thickest.

In regard to the affinity for the fat-staining substances of the horny layer of the human epidermis, Stoehr stated in his textbook that paraeleidin is colored black as well as ordinary fats, but only after a long-continued action of osmic acid. Martinotti demonstrated by the aid of the chromchrysoidin reaction the presence of certain special kinds of fat in the human epidermis, keratohyalin, eleidin, etc., and noted the significance of fats in the biologic process of producing horny substances. It is evident that in the cells of the horny layer of the human epidermis there exist certain kinds of fat that are colored by fat-staining dyes slowly but steadily, and, once colored, maintain the color for a long while. In the case of carotinoid pigmentation of the skin it is highly probable that such kinds of fat present in the epidermis are colored by the carotinoids which are excreted by the skin secretions. An obscure point, however, is left yet undecided: whether the carotinoids coloring the human epidermis are carried out solely by the skin secretions, or further directly through the tissue of the corium from its blood capillaries.

Kaupe stated that there is some variation in individuals with respect to the ease with which the carrot pigmentation may develop. Klose noted that well-nourished children were prone to the same affection. Having observed many cases of squash pigmentation, I can scarcely confirm Klose's findings. Individual variation in the intensity of skin secretion or in the thickness of the epidermis rather than the nutritional condition of the body seemed to determine the tendency for the skin pigmentation of the subjects following a squash diet.

8. The discoloration of the palate might presumably be due to the yellow coloring of the adipose tissue underlying a thin mucous membrane.

9. Palmer, L. S., and Kempster, H. L.: The Influence of Specific Feeds and Certain Pigments on the Color of the Egg Yolk and Body Fat of Fowls, J. Biol. Chem. **39**: 331 (Sept.) 1919.

PRESSURE ULNAR PALSY

ULNAR PALSY DUE TO PRESSURE OF A PLASTER-OF-PARIS BODY CAST *

PHILIP LEWIN, M.D.
CHICAGO

The justification for reporting this case lies in the fact that it is the only one I have encountered, and I have been unable to find a similar case recorded in the literature.

REPORT OF CASE

N. H., a woman, aged 26, entered St. Luke's Hospital in the service of Dr. John Lincoln Porter. A diagnosis of ostearthritis of the upper lumbar spine was made, and after several days' preliminary treatment a plaster-of-Paris body jacket (not including the shoulders) was applied (Fig. 1). This was removed after six weeks, and another was applied. The patient was allowed to go home. After having worn the second cast with no untoward effects for three weeks, she telephoned to say that her right hand felt weak and numb, and that it had been so for about seven days. She had no feeling in the thumb and fourth and fifth fingers. She was in the habit of sleeping with the arms over the head, and awakened one morning with the edge of the cast pressing against her right arm, i. e., she was lying on that arm. When she was seen the next morning, a typical ulnar pressure palsy was discovered. There was flexion of the fourth and fifth fingers (Fig. 2); inability to abduct and adduct the fifth finger; inability to move the middle finger laterally; there was present the prehensile sign of Froment, i. e., inability to grasp a sheet of paper with the tips of the thumb and index finger (Fig. 3); atrophy of the thenar eminence, and anesthesia of the fourth and fifth fingers. The cast was trimmed under the right axilla, and the patient was referred to Miss Lillian Klein for massage, active and passive movements, and reeducation. After eight days she reported for this treatment, and had six sessions during eighteen days, with great improvement. Two months from the date of onset of the trouble she was completely recovered.

* Owing to lack of space, this article is abbreviated in THE JOURNAL by the omission of an illustration. The complete article appears in the author's reprints.

MOVEMENTS AFFECTED IN PARALYSIS OF ULNAR NERVE

In complete paralysis of the ulnar nerve, flexion of the wrist is impaired, and in flexion the hand is tilted to the radial side owing to loss of the flexor carpi ulnaris. This loss is fairly compensated by the palmaris longus. Paralysis of the muscles may be detected by failure to feel the tendon contract at its point of insertion at the wrist. Flexion of the little and ring fingers is greatly impaired. Some flexion is possible through the flexor digitorum sublimis, supplied by the median. But flexion of the terminal phalanges is impossible, owing to paralysis of the portion of the flexor digitorum profundus destined for those fingers.

The normal function of the interossei is adduction and abduction of the fingers, flexion of the fingers at the metacarpophalangeal joints, and extension at the interphalangeal joints. In ulnar paralysis, abduction and adduction of the fingers is lost. This should be tested on a flat surface to avoid any confusion with the long flexors and extensors, which also have some of this action.

There is hyperextension of the fingers at the metacarpophlangeal joints due to loss of the interossei (which flex those joints) and the unopposed action of the long extensors of the fingers. There is flexion at the interphalangeal joints, due also to paralysis of the interossei (which extend them) and the unopposed action of the flexors. This hyperextension of the metacarpophalangeal joints and flexion of the interphalangeal joints are both more marked for the little and ring fingers than for the middle and index fingers. This is due to the sparing of the two lateral lumbricales, which are supplied by the median.

Adduction of the thumb is lost through paralysis of the adductor pollicis. This movement also should be tested with the hand on a flat surface, to prevent confusion with a somewhat similar action of the long flexor of the thumb.

LOCALIZATION OF ULNAR NERVE FIBERS

Marie and Meige state that it is probable that the fibers for the flexor carpi ulnaris tend to group themselves toward the inner side, and fibers for the flexors of the fourth and fifth fingers in the postero-external region. According to clinical observation, it would appear that those fibers innervating the interossei, hypothenar and adductor pollicis muscles are in the anterior and internal regions of the nerve.

Fig. 2.—Typical ulnar "griffe," hand of accoucheur, described by Froment and Babinski.

Déjerine and Mouzon localize the fibers in the region of the arm as follows: Internally, superficially, the cutaneous branches, those to the hypothenar eminence. then those to the interossei (those to the external are farthest out) at the back, the nerves for the adductor pollicis and flexor brevis pollicis. Externally, the nerves to the flexor capi ulnaris and flexor profundis.

TESTS FOR RECOVERY FROM ULNAR PARALYSIS

Pitres gives two tests:

1. With the palm flat on the table and fingers apart, the patient should draw the middle finger inward and outward, i. e., abduction and adduction.

2. He should scratch the top of the table with the nail of little finger without moving the wrist.

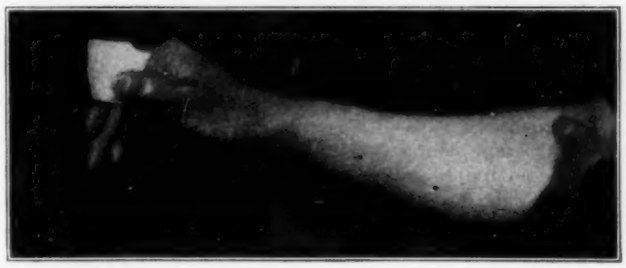


Fig. 3.—Prehensile sign of Froment.

PATHOLOGY

The pathology in the case herein reported is undoubtedly a physiologic interruption of continuity of the ulnar nerve due to compression by the edge of the plaster-of-Paris jacket.

7 West Madison Street.

CONGENITAL DIVERTICULUM OF THE URINARY BLADDER

REPORT OF CASE

R. M. LeCOMTE, M.D.
Instructor in Genito-Urinary Surgery, Georgetown University Hospital.
WASHINGTON, D. C.

Although not rare in urologic practice, diverticula of the urinary bladder are relatively uncommon. Most of those observed are associated with urinary obstruction, either actual or potential, so that cases evidently congenital, coming to light during adult life, are sufficiently rare to warrant reporting.

REPORT OF CASE

History.—W. H. J., a man, aged 32, white, married, telephone lineman, referred by Dr. J. J. McCarthy, Oct. 31, 1921, stated that he had a constant desire to urinate; he passed a small amount of urine followed by blood, both fresh and clotted; he had considerable urgency, some dysuria and nocturnal frequency of eight times. This condition had existed for one week. He believed that he had lost 6 or 8 pounds during the last three weeks. He had always been obliged to urinate frequently but, until recently, this had not been sufficiently marked to be considered of importance. He had married in 1907; he had healthy children aged 12 and 13 years. He had gonorrhea in March, 1919, treated by injections of mercurochrome-220 soluble and an occasional irrigation of silver nitrate. He had bilateral epididymitis. He was discharged as cured, June 14, 1919.

Examination.—When I saw him, the external genitals were normal. The voided urine contained pus and red blood cells;

* Read before the Medical Society of the District of Columbia, Jan. 25, 1922.

there was no residual urine on catheterization. The bladder washed free from pus readily; its capacity was about 30 c.c. No. 24 F. acorn bougies passed into the bladder readily, with no abnormal hang on introduction or withdrawal. Neither kidney was palpable. There was slight rigidity but no pain on pressure over the right superior lumbar triangle. A tentative diagnosis of bladder tumor or urinary tuberculosis was made. Cystoscopy, November 2, revealed distinct inflammation of the trigon. The opening of a diverticulum was seen lateral to and above the right ureteral orifice, with cloudy fluid seeping lazily from it; the diameter of the orifice was estimated to be 8 mm. The right ureteral orifice was normal and admitted a No. 6 F. catheter easily. The left ureteral orifice was edematous; it admitted a No. 6 F. catheter easily. There was a scant amount of bloody urine from each side (the blood probably being due to traumatism).

Phenolsulphonephthalein, administered intravenously, appeared in two minutes on each side. The total amount in thirty minutes was 8 per cent. on each side. Urea from the right side was 1.4 per cent.; left side, 1.8 per cent. Separate estimation of the kidney function was made to exclude grave unilateral kidney infection, and to this end, on account of the blood in the specimens, urea estimation and appearance time of the phenolsulphonephthalein rather than the total dye excretion, were taken as indexes.

A cystogram, November 3, revealed a diverticulum about 7 cm. in diameter between the bladder and the right side of the bony pelvis.

Operation and Result.—November 5, the bladder findings at the previous cystoscopy were confirmed. A No. 6 F. catheter was introduced into the right ureter for 15 cm. The bladder was opened by a median suprapubic incision. The left index finger was inserted into the diverticulum through the bladder opening; the sac was exposed extravesically and separated from the tissues to the right of and behind the bladder; a part of the sac lay between the bladder and the right ureter. The bladder margin of the neck of the sac was excised, and the opening thus made was closed by interrupted catgut sutures; a continuous catgut suture was placed to cover the interrupted layer. The incision in the vertex of the bladder was closed with interrupted catgut sutures, and a drainage tube was placed at its upper end. The prevesical space and the site of the diverticulum were drained by cigaret drains, and the muscle and skin wounds were closed with catgut and silkworm gut in the usual way.

Examination of the excised tissue by Dr. Lester Neuman revealed elements of all coats of the bladder wall.

Recovery from the operation was uneventful; the drains were removed on the seventh day, the bladder tube on the eighth day. The patient was out of bed on the twelfth day, and suprapubic drainage ceased on the fourteenth day. A cystogram, November 26, gave a normal bladder shadow.

Jan. 16, 1922, seventy-one days after operation, there was no diurnal or nocturnal frequency, and no urgency or dysuria. The urine was clear and free from albumin. The suprapubic scar was normal.

COMMENT

This case is described as congenital because there was nothing in the history to indicate prolonged voluntary retention, nor was there demonstrable urinary obstruction, either prostatic or urethral, or the results of such obstruction—bladder trabeculation—on examination or at operation.

Diverticula are pouches that open into the cavity of the bladder, the wall of the pouch being continuous with that of the bladder itself. They are varied as to size, may be single or multiple, and are located in any part of the bladder. Diverticula at the apex of the bladder are generally classed as instances of patent urachus rather than of diverticulum proper.

The trend of opinion as regards cause is that, just as in inguinal hernia, all are the result of a congenital deficiency; that they may be congenital is shown by their presence in early life. That they may result from urethral obstruction is shown by numerous cases associated with prostatism and urethral stricture.

Diverticula produce no symptom that is pathognomonic, their presence usually being detected at necropsy, at operation or in routine investigation of the bladder in urinary disease of various types. As early as 1791, Chopart [1] diagnosed the disease and confirmed his diagnosis by postmortem findings; his diagnosis was based on the presence, just below the umbilicus, of a tumor which was present after urination and which would disappear on pressure over it, the disappearance being accompanied by refilling of the bladder and subsequent urination. Until cystoscopy became a practical diagnostic procedure, few diverticula were found except at necropsy and at operation, generally for inguinal hernia, though the diagnosis is reported to have been made at times, evidently with rare clinical skill.

Through the use of the cystoscope, early diagnosis has become more common and operative relief more frequent. This diagnostic method is not, however, sufficient to cover all cases, since [2] the orifice may not be within range of the observation lens or, if it is contractile, it is conceivable that it may be closed at the time of examination, and overlooked or not recognized. Even when the orifice can be seen, cystoscopy will give no idea of the size, shape and general relations of the sac, so that cystograms are necessary to complete the demonstration. Since the shadow of the diverticulum may be covered by that cast from the bladder itself, simple cystograms may not suffice; in such a case, contrast cystograms, made by draining the bladder of opaque medium quickly, distending it with air and taking a picture before the diverticulum has had time to empty its contents into the bladder, may outline the sac satisfactorily.[2]

The complications that may occur in this condition may be considered as they affect the diverticulum itself and as they apply to other organs. The diverticulum may be the seat of any disease to which the bladder itself is liable; thus, inflammation is common and stone and tumors have been found within them, while perforation with urinary extravasation and extension of infection into the perivesical tissues or even peritoneal cavity has occurred. Since inflammation is common in the sac and this generally involves the bladder, the remote complications are those of a cystitis.

In congenital cases it is believed that the train of events is somewhat as follows: Given a diverticulum at birth, the person notes no urinary abnormality that he considers important until dilatation and infection of the sac occurs; since the diverticulum has to empty itself against the pressure in the bladder, its wall eventually dilates so that urine is retained within it and becomes infected, with resultant inflammation; this leads to cystitis, which causes symptoms sufficient to attract the attention of the patient. If it is not recognized and removed, the train of conditions following neglected cystitis ensue.

Except in diverticula of small size and manifestly due to urethral obstruction, it is difficult to think of cure short of operative treatment of the sac. Enlargement of the orifice by dilation or by slitting the wall of both bladder and sac and suturing the incision thus

1. Chopart: Traité des maladies des voies urinaires, 1791, p. 52; quoted by Englisch, J.: Arch. f. klin. Chir. **73**: 1, 1904.
2. Hinman, F.: Surg., Gynec. & Obst. **29**: 150 (Aug.) 1919.

made so as to throw the cavity of the sac into that of the bladder may be all that can be done if a ureter opens into the diverticulum and cannot be saved in excision of the sac or properly implanted.

Excision may be practiced by either the extravesical or intravesical route. Since the bladder should be opened for exploration and must be drained for a variable time afterward, it would seem that ease of examination and manipulation of the sac would compensate for the additional opening in the bladder and would give good end-results. Incisions have been mainly median suprapubic, although semilunar, perineal and sacral have been used. Depending on the relations and condition of the sac, excision of it may be a simple or complex procedure. Czerny,[3] in his case, the first of operative removal found reported, introduced his index finger into the sac through the bladder to assist in enucleation. Young [4] draws the diverticulum into the bladder by means of a glass tube coupled to a suction pump. Lower [5] packs the cavity with gauze, thus rendering it a solid or semisolid tumor for aid in enucleation. Of the procedures suggested that of introducing the finger into the sac seems the simplest and to take care most efficiently of all the objects to be sought during enucleation.

Geraghty [6] has described treatment of diverticula by intravesical excision of the mucous membrane and obliteration of the sac by suture of the orifice and tube drainage, claiming for this procedure facility in removal of the sac, elimination of necessity for plastic ureteral surgery, and applicability to diverticula practically inoperable by other methods.

Needless to say, appropriate measures should be taken to relieve any urinary obstruction present, and the bladder should be drained by a convenient method until the wound at the site of the diverticulum has healed.

The immediate prognosis is good, but the end-result will depend on the nature of any complications present, kidney infection, peritonitis, involvement of the ureter, etc.

Medical Science Building.

PERINEAL DISLOCATION OF THE HIP

WITH AVULSION OF THE GREATER TUBEROSITY

WILLIS C. CAMPBELL, M.D.
MEMPHIS, TENN.

As a rule, traumatic dislocation of the hip joint can be reduced by well known manipulations, and only on very rare occasions is open surgery required. In one case recently reduction was found impossible by the usual methods, and only by a spacious incision could it be accomplished.

CASE REPORT

J. P. P., Jr., a boy, aged 11, while riding his bicycle, July 10, 1921, was struck from the rear by a street car and was dragged 50 feet (15 meters) beneath the front guard. Immediately he was rushed to the Baptist Hospital. The right thigh was abducted with extreme internal rotation. A mass could be felt within the perineum anterior to the anus, over which the skin was tense and discolored. Obviously, there existed a perineal dislocation. A roentgenogram revealed the head of the right femur within the perineum and the greater trochanter avulsed well above its normal location. When reduction was attempted, we found the head wedged and locked against the inner aspect of the tuber ischii. Every conceivable movement, using the femur as a lever, could not change the position, and only by a direct push with the base of the hand were we able to release the head, after which it glided upward on the dorsum of the ilium. We again tried various maneuvers for a reduction of a traumatic dorsal dislocation of the hip, employed an unusually strong traction table, and even used the routine procedures for reduction of congenital dislocation. The head would either glide by the acetabulum to its former position in the perineum, or on the dorsum of the ilium. If in the perineum, we would again experience great difficulty in dislodging. At the end of one hour we did not feel that it was safe, for the patient, to continue further efforts. He showed mild shock and was placed in bed with simple extension and hot packs. On the following day the temperature rose to 103, with swelling and ecchymosis from the umbilicus to the right knee.

Fig. 1.—Head of femur within perineum, with avulsed greater trochanter above.

On the twelfth day, as the temperature did not range over 99.75, pulse 130, we decided to do an open reduction. The condition of the patient was such that time was a considerable factor. The Kocher U incision was employed. The head of the femur was on the dorsum of the ilium in a mass of torn muscle and clotted blood. The acetabulum was obscured by dense fascia, rendering its location uncertain and separating the head from the socket. This heavy sheet of fascia was attached above to the avulsed trochanter, while below continuous with the elevated periosteum of the femur. In other words, it was the tendinous aponeurosis and insertion of the external rotators (gluteals). This structure was also coiled about the neck and shaft from above downward, behind the neck and then forward over the anterior aspect of the neck and shaft, so that any attempt at reduction would draw tensely the sheet of fascia over the acetabulum. A transverse section was made and the band uncoiled, after which there was free access to the acetabulum. With a bone skid reduction was accomplished, and the trochanter stitched to the shaft with chromic catgut. All structures closed automatically. At present, four months after operation, there is scarcely a perceptible limp, with about 60 per cent. normal motion. A perfect recovery can readily be assured.

3. Czerny: Beitr. z. klin. Chir. **19**: 247, 1896.
4. Young, H. H.: Surg., Gynec. & Obst. **26**: 125 (Feb.) 1918.
5. Lower, W. E.: Diverticula of Urinary Bladder, Arch. Surg. **3**: 38 (July) 1921.
6. Geraghty, J.: South. M. J. **15**: 54 (Jan.) 1922.

One could hardly determine the exact mechanism of such an injury, but we concluded, from the manner in which the heavy aponeurotic band was twisted about the femur, that there was first a dorsal dislocation with further extreme outward rotation, which caused avulsion of the trochanter, after which there was an inward rotary movement which coiled the

Fig. 2.—Dorsal dislocation after dislodgment of head in perineum.

heavy aponeurosis about the neck and shaft prior to perineal lodgment. This tense sheet or band was obviously the factor in tenaciously holding the head against the inner aspect of the tuber ischii.

This case illustrates how futile were our efforts to reduce and, from the excellent result, that possibly it

Fig. 3.—Condition six months later: reduction with callus from stripped periosteum.

might be wise to resort to open reduction in certain instances after moderate attempts have failed.

869 Madison Avenue.

Complement Fixation in Goiter.—The blood of some patients who show symptoms of exophthalmic goiter binds complement in the presence of an antigen made from normal thyroid glands.—J. Koopman, *Proc. New York Path. Soc.* **21**:56 (Jan.-May) 1921.

THE ELECTROGASTROGRAM AND WHAT IT SHOWS*

WALTER C. ALVAREZ, M.D.
SAN FRANCISCO

After several years spent in devising special apparatus and overcoming technical difficulties, I am now getting good records of the action currents in different parts of the stomach and bowels of laboratory animals. The first report of this work has already been published.[1] The records in that article show that the electrograms obtained by leading off from various parts of the stomach and bowel to an exceedingly sensitive d'Arsonval galvanometer resemble closely the kymographic records obtained by attaching light levers to

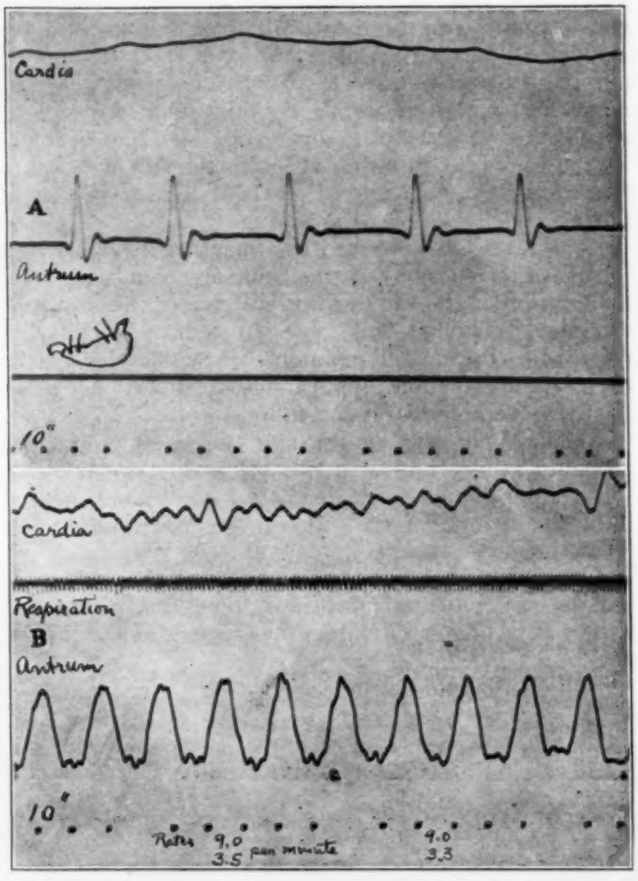


Fig. 1.—*A*, simultaneous electrogastrograms from the excised stomach of a cat placed in a bath of warm oxygenated Locke's solution. The small diagram shows the location of the electrodes. In this and in all subsequent graphs an upward movement indicates a negativity of the orad electrode. Note smaller waves between the main ones on both records. *B*, simultaneous electrogastrograms from the stomach of a cat under urethane anesthesia and with the abdomen opened under warm Locke's solution. There appears to be a complete dissociation between the activities of the two parts of the stomach. The time record represents ten seconds, with a twenty second interval every minute.

those parts or to bits of muscle excised from them. This resemblance is striking, as regards not only the rate of contraction but also the general form and amplitude of the curve.

We have, then, at our disposal a new method with which to study the activities of the digestive tract. One of its great advantages is that records can now be obtained at all times even from stomachs and bowels

* From the George Williams Hooper Foundation for Medical Research, and the Department of Medicine, University of California Medical School.

1. Alvarez, W. C., and Mahoney, L. J.: Am. J. Physiol. **58**: 476-493 (Jan.) 1922.

which seem to be motionless. Hitherto, physiologists have often been hampered by the visceral paralysis which results from opening the abdomen, but it is seen now that the resultant splanchnic stimulation can abolish the visible contractions without stopping the rhythmic currents. To use a mechanical simile, the underlying chemical processes seem to go on after the nerves have thrown out a sort of "clutch" between them and the contractile substances in the muscle.

THE GASTRIC PACEMAKER

Naturally, the first question to be asked of the new method was: Where is the gastric pacemaker and just how do the waves run over the stomach? Although, as often happens, the work has been more fruitful in new puzzles than in answers to the original one, certain observations may briefly be reported at this time.

Previous work had made me feel that the pacemaker would probably be found on the lesser curvature near the cardia, because the muscle excised from that part shows a greater rhythmicity than that of any other part of the stomach. Furthermore, it had seemed to me most probable that the waves which we see arising here and there about the middle of the stomach have really come as ripples from this pacemaker. The electrogastrograms now show clearly that this is often the case, and that definite electrical disturbances are traveling over the fundus when no movement of the muscle can be detected even with a magnifying glass. With suitable apparatus, however, I have been able to show that the muscle does move, usually through distances of only a few thousandths of an inch. Sometimes, as in the irritable stomachs of persons with duodenal ulcers, these waves beginning near the cardia are so deep that we can easily see them with the roentgen ray and without magnifying devices.

DIFFERENT TYPES OF PERISTALSIS

If all the gastric waves began at one point and traveled evenly to the pylorus, the problem would be relatively simple; but, unfortunately, the records, and we already have a hundred yards of them, show all sorts of irregularities. There are shifts of the pacemaker, sometimes even to the pyloric region; there are contractions appearing here and there which do not seem to set up any traveling disturbances; there are waves which travel half way across the stomach only to be blocked suddenly at some point (Fig. 2 *B*); and there are at times systoles of the stomach as a whole. Confusion arises not only on account of the number of these different types of gastric peristalsis but also on account of the sudden changes from one type to the other.

The problem of analyzing the records is complicated still further by the fact that the rate of travel of the waves down the stomach seems to vary markedly from time to time. One set of waves may take seven seconds each to go from the cardia to the antrum, while shortly afterward another set may take twenty-one seconds each. This irregularity, together with the fact that two or three waves are often traveling over the stomach at the same time, makes it very difficult to identify and correlate the deflections which appear in records taken simultaneously from different parts of the organ.

DISSOCIATION OF FUNDUS AND PARS PYLORICA

Still more puzzling and surprising is the discovery that the body of the stomach and the pyloric antrum can contract with separate rhythms, much as the dissociated auricle and ventricle do after complete heart-block. I had not been getting electrogastrograms long before I found a number in which the cardiac record showed from three to four times as many deflections as the antral (Fig. 1 *B*). Now, although my previous work had led me to look on the stomach as a combined crop and gizzard, that is, two organs with different functions and different types of muscle, I was not prepared for quite so much dissociation of activity. Furthermore, it had never occurred to me that twelve

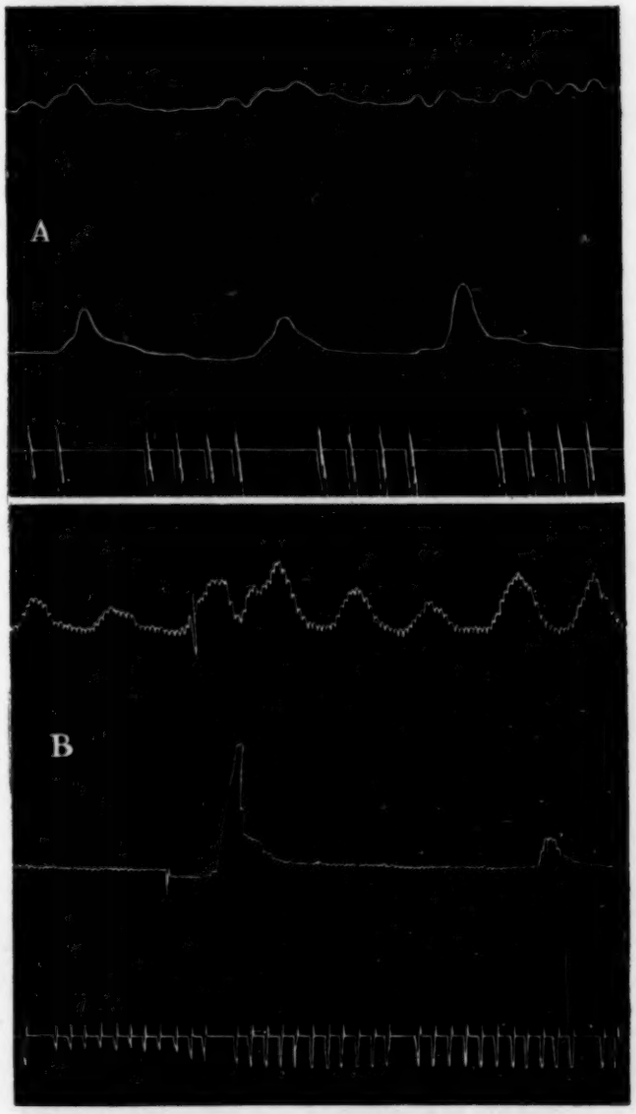


Fig. 2.—*A*, record obtained by fastening light levers to the peritoneal surface of the excised stomach of a dog, kept in warm Locke's solution. Note in the upper, fundus, record small frequent waves superimposed upon the larger ones. The lower record is from the pyloric antrum. *B*, record obtained by fastening delicate enterographs to the peritoneal coat of a sickly rabbit's stomach. The animal was under urethane and had its abdomen opened in a large tank of warm Locke's solution. The upper record is from the preantrum; the lower, from the antrum a centimeter away. Note the block with occasional escape. The small waves on the preantral record are respiratory in origin. The time record represents five seconds.

contractions a minute could appear in a stomach over which three waves a minute are passing. Hence, I felt the need for checking, as soon as possible, the accuracy of the electrogastrogram with simple mechanical methods. That is now being done in my laboratory:

simultaneous kymographic records are being obtained from different portions of the stomach, and I can already say that there is no doubt about the dissociation at times between the activities of the fundus and the pyloric antrum, or about the ability of the gastric muscle to respond to two or more rhythms at the same time (Fig. 2 *A*). When we come to think of it, this should not be surprising, because we know that rush waves travel down the small intestine from time to time over

Fig. 3.—Mechanical records obtained by fastening enterographs to the peritoneal surface of the pyloric antrum, first portion of the duodenum, and duodenum 20 cm. below the pylorus. The animal was a rabbit, under urethane, and with the abdomen opened under Locke's solution. Note the large tone changes in the duodenum when gastric waves approach the pylorus. At *x*, the drop in tone shows that a rush wave has just passed on its way down the bowel.

muscle which is not only contracting from ten to twenty times a minute, but is responding constantly to marked tonus changes. Incidentally, the work of Palugyay,[2] who screened the stomachs of men and women lying head downward at an angle of 45 degrees, suggests strongly that the small, frequent fundus waves are present sometimes in man.

2. Palugyay, J.: Arch. f. d. ges. Physiol. **187**: 232, 1921.

PYLORIC BLOCK NOT ABSOLUTE

Another interesting point brought out with the new methods is that the stoppage of the gastric waves at the pylorus is not so complete as has hitherto been thought. We can see now that the approach of a wave in the pars pylorica is the signal for the appearance of a strong tonus wave in the first portion of the duodenum (Fig. 3). If this can be shown to occur also in man, we shall take a step forward in explaining the production of the pain in duodenal ulcer.

The new records show, moreover, that the rush waves down the bowel always originate in a gastric contraction which, as we have seen, raises the tone of the duodenum. Furthermore, the needs of the bowel seem often to affect the intensity of gastric peristalsis. Thus, when the duodenum has been contracting actively for some time, trying to send a rush wave down the bowel, the stomach seems often to come to its aid with one or two powerful waves. At other times, a sudden increase of activity in the lower bowel will temporarily stop the gastric waves.

I have long suspected from watching peristalsis in man and animals that some sort of disturbance travels well out ahead of the visible wave, and I can now show it clearly in the records. This observation may have considerable importance because, when the pylorus is a little more irritable than usual, its latent period is likely to be shortened. The muscle there will respond out of its turn, and its contraction will block the main part of the wave before that can bring force to bear on the sphincter. I believe that we can in this way account for the failure of some stomachs to empty properly in spite of good waves and the absence of any visible obstruction at the pylorus.

THE HUMAN ELECTROGASTROGRAM

I had not been working long with the galvanometers before I began experimenting to see what could be done on man. I first proved to my satisfaction that good electrogastrograms could be obtained by applying nonpolarizable electrodes to the shaved abdominal walls of rabbits. The apparatus was then used on a little old woman whose abdominal wall was so thin that her gastric peristalsis was easily visible. This was very convenient, as we could see where to place the electrodes and we could also make a mark on the record every time a wave passed by. A glance at Figure 4 will show that although one of the records, derived presumably from the pars pylorica, has three deflections a minute, corresponding to the gastric waves, the other one has from eleven to twelve deflections superimposed upon waves corresponding to the visible ones. This record looks so much like many of those obtained from the cardiac region in cats and dogs that I strongly suspect that its deflections are due to small contractions in the upper part of the stomach. My efforts to get similar records from other persons with better muscled abdominal walls have not been so successful. In some, no deflections were seen, while in others only a respiratory record could be obtained. Better results may later be obtained by amplifying the delicate currents.

Some records are now being obtained with an intragastric electrode which can be introduced very much like an Einhorn tube. As modifications are still being made in this instrument, I will reserve its description

for a later paper. Suffice it to say that it is a small calomel electrode, 4 mm. in diameter and 2 cm. long. With this apparatus, we can record the gastric contractions of patients with achlorhydria but, as I feared, we have had no success with persons with normal acidities. The voltage produced by slight differences in the concentration of acid bathing the instrument are so great that I doubt very much whether anything can ever be done along these lines.

COMMENT

We see, then, that a study of the action currents of the stomach and bowel has already brought to light a number of interesting things. Still better, perhaps, it has offered us a number of puzzles for solution and has caused us to ask many questions. The future alone will tell us how common the irregular types of peristalsis are in man, and whether they are normal variations or definitely pathologic.

Perhaps the most important service such studies are likely to render the clinician is the demonstration, first, that certain peculiar types of peristalsis exist; secondly, that they are to be looked for under certain conditions; and, thirdly, that they give rise to certain symptoms. To illustrate, we may some day be able to say that the desire to belch is associated with one type of peristalsis; the relief obtained by taking a little soda is due to the institution of another type; the pain of ulcer to yet another type, and so on, just as the heart specialist, after long experience with the electrocardiograph, can now make shrewd diagnosis of fibrillation, heart block, and so forth, on the basis of the symptoms or the feel of the pulse. Since writing this little prophecy, I have been delighted to see a start made toward its fulfilment in the excellent paper of Reynolds and McClure.[3] They have been screening patients with ulcer for hours at a time, watching to see what happens when pain comes and goes, and they have observed that the onset of such pain often coincides with a change from one type of peristalsis to another. These differences in type have been observed by roentgenographers for years, but no one has taken the time to correlate them with symptoms as Reynolds and McClure have done.

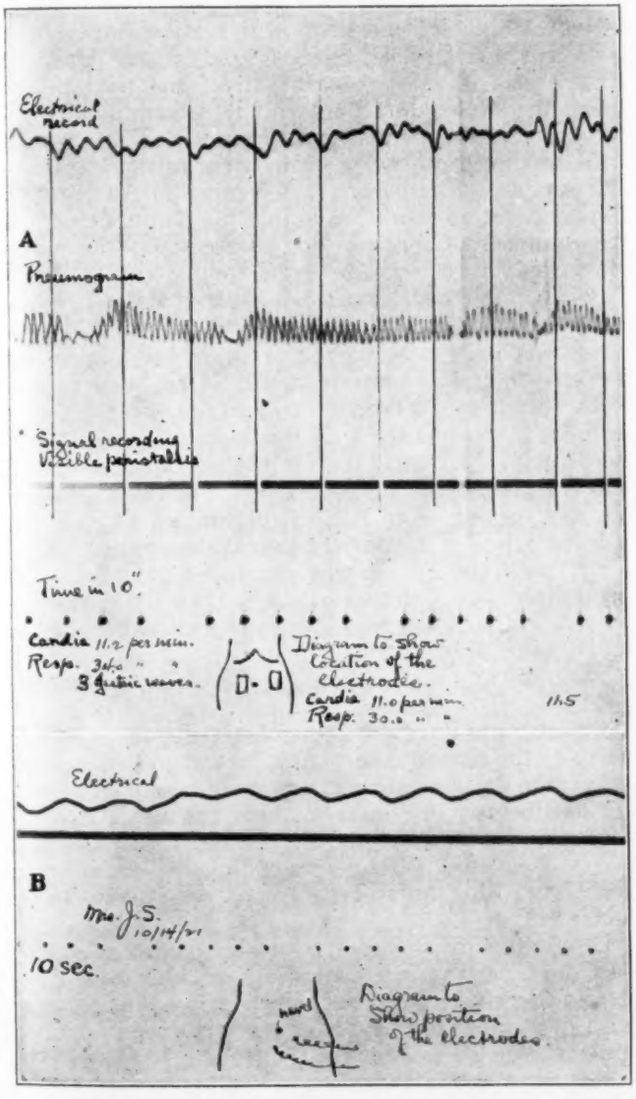


Fig. 4.—Human electrogastrogram. *A*, the small, frequent fundus type of deflection superimposed upon larger deflections which correspond in time with the visible gastric waves. *B*, the antral type of deflection. The small diagrams show the location of the electrodes on the abdomen.

SUMMARY

The first steps have been taken in working out the technic of electrogastrography. The records show that many of the waves which seem to begin in the lower third of the stomach have come as shallow ripples from a pace-making region near the cardia. There are, however, a number of different types of gastric peristalsis, and the stomach can change suddenly from one to another.

At times, there seems to be a dissociation between the activities of the fundus and the pars pylorica. The fundus can contract several times to the antrum's once. Small, frequent waves are sometimes superimposed upon the larger, slower ones. These findings have been confirmed with mechanical recording devices.

Marked blockage of the waves has been observed often in the preantral region.

The conduction time of waves traveling down the stomach shows wide variation.

Marked tonus changes occur in the duodenum coincident with the arrival of gastric waves at the pylorus. This observation may throw light on the production of pain in duodenal ulcer.

The peristaltic rushes down the bowel are shown to originate in gastric waves.

The first human electrogastrograms are here presented.

3. Reynolds, Lawrence, and McClure, C. W.: Motor Phenomena Occurring in Normal Stomachs, in the Presence of Peptic Ulcer and Its Pain, as Observed Fluoroscopically, Arch. Int. Med. **29**: 1 (Jan.) 1922.

Psychotherapy in Hiccup.—Recently a boy, aged 8 years, while undergoing the desquamating period of scarlatina was attacked with a sharp, rapid, violent hiccup. It persisted several days, and by preventing sleep, caused alarm. Since it proved defiant to the methods usually employed for treating this symptom, I decided to try a psychotherapeutic measure. It was strongly impressed on the patient's mind that the ingestion of a teaspoonful of red medicine, resulting by mixing two drugs, would effect a cure. He was also told that any color other than red would be noneffective. Then, phenolphthalein and magnesia magma were combined in the patient's presence, resulting in the formation of the red medicine. The boy opened his eyes wide, and eagerly drank a dose of the mixture with the result that the singultus stopped immediately and did not recur.—D. J. CALICCHIO, Cambridge, Mass.

INFECTIOUS JAUNDICE OCCURRING IN NEW YORK STATE

PRELIMINARY REPORT OF AN INVESTIGATION, WITH REPORT OF A CASE OF ACCIDENTAL INFECTION OF THE HUMAN SUBJECT WITH LEPTOSPIRA ICTEROCHAEMORRHAGIAE FROM THE RAT *

AUGUSTUS WADSWORTH, M.D.; H. VIRGINIA LANGWORTHY; F. CONSTANCE STEWART; ANNA C. MOORE, AND MARION B. COLEMAN

ALBANY, N. Y.

During the summer and fall of 1921, an increasing number of outbreaks of what appeared to be the infectious or epidemic type of jaundice were reported to the state department of health. Physicians throughout the state were notified of the fact and requested to report all such cases. Approximately 300 cases were brought to light, occurring in groups of from three or four to fifty or more.

Dr. G. H. Williams, sanitary supervisor, reported twenty-six cases at Cooperstown, which perhaps give the most conclusive evidence of the infectious or epidemic nature of the outbreak there. He reported fourteen cases among schoolchildren, and four additional cases in the immediate families of these children. January 3, one markedly jaundiced patient was removed to the hospital. January 11, two nurses, and the following day a third nurse, all of whom had cared for the patient, developed characteristic symptoms. A week later a fourth nurse who had cared for two of the others developed symptoms, and on the same day the assistant superintendent of nurses, who had been in touch with all jaundice cases and had had slight symptoms for a week previous, became more severely ill. On the 26th and 28th, two other nurses who had been in contact with cases on the 17th and 18th, and on the 6th, 7th and 18th, respectively, became ill. Then, January 30, the eighth nurse, who had been in charge of the original case, abruptly developed symptoms. All of these hospital cases were marked by great prostation, headache, nausea, vomiting and chills. Leukocyte counts varied from 7,000 to 16,000. In five of the eight nurses, fever was definitely absent. Of the twenty-six cases reported by Dr. Williams, fever is recorded as an early symptom in fifteen; bile-colored urine is recorded in twelve, and clay-colored stools in six.

In order to study the infectious nature of the disease, it was necessary to bring the laboratory into close touch with the early cases. This was done by sending members of the staff to the bedside, and establishing centers for investigation in the local laboratories. Both early and late cases were studied. Five hundred and ten laboratory examinations of specimens from 132 cases were made, special attention being directed to the search for the spirochete described by Inada and Ido,[1] and more fully by Noguchi,[2] and designated by him as *Leptospira icterohaemorrhagiae*. But specimens were also examined for the influenza bacillus and the groups of organisms associated with enteric disease.

Fifteen blood cultures were made and found to be either sterile or badly contaminated. The blood counts revealed nothing of significance. One hundred and one specimens were examined for organisms of the enteric disease group. The dysentery bacillus was isolated from one case, and the typhoid bacillus from a fatal case of intestinal hemorrhage. Thirty-two blood specimens failed to give significant agglutination with the enteric bacteria. The influenza bacillus was found occasionally, and in moderate numbers, in specimens from the nose and throat. Eighty-seven specimens of urine and thirty-six specimens of blood were inoculated into guinea-pigs without showing any evidence of the presence of *Leptospira icterohaemorrhagiae*.

The Pfeiffer test of the blood serum from forty-seven cases, which was made with nonvirulent cultures of Noguchi strains, Group 8, Group 30 and American No. 2, was in every case negative, and the animals failed to develop infection with these strains of *Leptospira icterohaemorrhagiae*. Recently, Pfeiffer tests with seventeen other specimens were made with virulent strains isolated from rats secured in Albany with similar negative results, save that the animals died. A large number of specimens of citrated blood were also inoculated into special mediums for the cultivation of *Leptospira icterohaemorrhagiae* without success.

In conjunction with the clinical investigation, an effort was made to obtain rats from the localities where the epidemics had been reported. One hundred and twenty-eight rats from various parts of the state were examined. Suspensions of the kidneys, ground with sterile glass in a mortar with salt solution, were injected into the peritoneum of guinea-pigs. In twenty-two of the rats coming from Albany, organisms showing the characteristics of *Leptospira icterohaemorrhagiae* were found, and the guinea-pigs developed jaundice. Of these twenty-two strains of *Leptospira icterohaemorrhagiae*, thirteen are now under cultivation for further study, while nine have been lost.

The difficulty encountered by the laboratory in getting in touch with cases during the earliest stages of the disease has proved a great obstacle to the adequate study of the human infections. In the present investigation, the delay incident to reporting cases and assigning members of the staff to them has made it practically impossible to study the disease during the first two or three days of febrile reaction, when the effort to find the inciting micro-organism is most likely to be successful.

Late in the investigation, a member of the laboratory staff developed an infection while working with *Leptospira icterohaemorrhagiae*, which gave an opportunity for a most interesting study of the virulence in man of one of these strains from the rat:

Friday, February 3, while preparing for the inoculation of a rabbit with a virulent culture [3] from a rat, one of the workers pricked her finger with the needle of the syringe containing the culture for inoculation. The rabbit was inoculated, and the worker cleaned and disinfected her wound. She had no symptoms of illness until the evening of Friday, February 10, when the febrile reaction started, together with general malaise, nausea and vomiting. The febrile reaction lasted ten days, the temperature rising to 104 on the third day, with remissions to 100 or 101, and persisted, rising to 103 and remitting, then gradually falling and reaching normal on the tenth day. Prostration was marked and increasingly so as the febrile reaction continued, but there was no

* From the Division of Laboratories and Research, New York State Department of Health.

1. Inada, R.; Ido, Y.; Hoki, R.; Kaneko, R., and Ito, H.: The Etiology, Mode of Infection and Specific Therapy of Weil's Disease (Spirochaetosis Icterohaemorrhagiae), J. Exper. Med. **23**: 377 (March) 1916.

2. Noguchi, Hideyo: Spirochaeta Icterohaemorrhagiae in American Wild Rats and Its Relation to the Japanese and European Strains, J. Exper. Med. **25**: 755 (May) 1917; Morphological Characteristics and Nomenclature of Leptospira (Spirochaeta) Icterohaemorrhagiae (Inada and Ido), ibid. **27**: 575 (May) 1918.

3. The culture originally obtained from a rat secured in Albany had been passed through two guinea-pigs.

material disturbance of the pulse rate-temperature ratio. The pulse rate fluctuated between 110 and 130 during the height of the febrile reaction. There were no signs of involvement of any of the organs, no bile or casts in the urine, and no significant albuminuria. There was no jaundice beyond a possible brief tinging of the sclerae. There was moderate leukocytosis at the beginning. In fact, the diagnosis was quite obscure until cultures of the leptospira were obtained.[4]

Forty-eight hours after the onset, a specimen of blood was taken for culture and for inoculation into guinea-pigs. The morphologic examination of the citrated specimen of blood in the dark field revealed a few forms which resembled the leptospira but which could not be definitely identified. Further study of the specimen after standing revealed like forms, but very few in number and of quite indeterminate morphology and motility. Ordinarily, *Leptospira icterohaemorrhagiae* increases in number so that its identification is not difficult. On the fourth day, when Dr. Noguchi of the Rockefeller Institute kindly came to Albany to see the patient, further specimens were taken. Guinea-pigs and special culture mediums were inoculated with this specimen of citrated blood, and a careful morphologic examination in the dark field was made immediately, and again the day following, in the hope of discovering forms similar to those seen at the previous examination. But no definite evidence of the presence of *Leptospira icterohaemorrhagiae* was obtained until February 24, when one of the guinea-pigs inoculated February 12 developed jaundice and was found to be dying. It was chloroformed and examined postmortem. Fresh guinea-pigs and culture mediums were inoculated with the specimens obtained from the necropsy—urine, kidney, liver and blood. Morphologic examination of this material in the dark field failed to reveal the spirochetes. The following day a second guinea-pig, inoculated with the specimen taken February 14, developed jaundice. It was chloroformed and examined postmortem; the material was inoculated into fresh guinea-pigs and examined under the microscope in the dark field. Organisms typical of *Leptospira icterohaemorrhagiae* were found in this material.

The results of the examination, therefore, leave no question as to the diagnosis. Whether or not the infection developed from the needle prick is, of course, uncertain; but there is no indication of a different mode of infection or of any connection between this case and those which occurred during the epidemic.

The foregoing case is the only human one studied, so far, during the department's whole investigation of infectious jaundice in New York State, in which *Leptospira icterohaemorrhagiae* has been isolated from the patient's blood. The patient was a member of the laboratory staff who had been working with virulent leptospiras obtained from a rat, and presents, we believe, the first instance of human infection developing from cultures isolated from rats in this country. The investigation is being continued, and further study is necessary before definite conclusions can be made.

4. The patient was under the care of Dr. C. K. Winne of Albany.

Lethargic Encephalitis.—The Department of Commerce, Bureau of the Census, states that, in 1920, 1,505 deaths from lethargic encephalitis were reported in the United States as against 589 in 1919. Deaths from this cause were reported for every state in the registration area with the exception of Delaware. In New York state 364 deaths were reported.

FURTHER OBSERVATIONS ON THE DISTRIBUTION OF VITAMIN B IN SOME VEGETABLE FOODS

THOMAS B. OSBORNE, PH.D.
AND
LAFAYETTE B. MENDEL, PH.D.
NEW HAVEN, CONN.

In the course of our studies of the distribution of vitamins in plant products, we have collected data regarding a number of important edible foods for which no information in this respect seems to be available at present, with the possible exception of indirect suggestions obtained by other than animal feeding trials. Our experiments, made with rats, supplement numerous earlier ones [1] conducted by the same technic, and indicate that asparagus, celery, dandelion, lettuce and parsley all contain noteworthy amounts of vitamin B.

TESTS USED

The tests were made on young white rats weighing from 40 to 80 gm. which were failing to grow at the age of about 50 days on a diet demonstrated to be adequate to promote increment in body weight at a normal rate when sufficient vitamin B was supplied. The food mixture consisted of casein, 18 per cent.; salt mixture,[2] 4; starch, 54; butter fat, 9, and lard, 15 per cent. The feeding of from 100 to 200 mg. of dried brewery yeast daily in addition to this ration suffices to induce adequate food intake and growth at a normal rate for young rats.

The vegetable products were prepared for feeding by drying the well cleaned and comminuted edible parts, uncooked, in a current of air at about 80 C. Only the blanched stalks of the celery were used, the root portions being discarded. The asparagus represented the upper 5-inch portions of the freshly gathered shoots. Tablets containing varying weights of these desiccated vegetables were fed in known amounts apart from the standard vitamin B-free food offered, along with water, ad libitum.

RESULTS

The asparagus proved to be unexpectedly rich in vitamin B. The requisite daily dose at the age at which the rats were tested approximated 200 mg. of the dry material, equivalent to 2.2 gm. of the fresh vegetable daily. For the celery, the requisite daily dosage ranged above 500 mg. and below 800 mg., equivalent to 10.8 and 17.2 gm., respectively, of the fresh stalks. In the case of lettuce, somewhat less may suffice (400 mg. of the dry, or 11 gm. of the fresh plant). With dandelion leaves the results were not so good. These "greens" are evidently not wholly lacking in vitamin B. Doses less than 400 mg. (equal to 5.6 gm. of the fresh leaves) usually failed to promote gains of weight; and even with 600 mg. daily, nutritive failure ultimately ensued in every case tested. We were at first inclined to attribute this to the presence of some toxic substance which would manifest its deleterious effects as soon as larger quantities of dandelion were consumed. This explana-

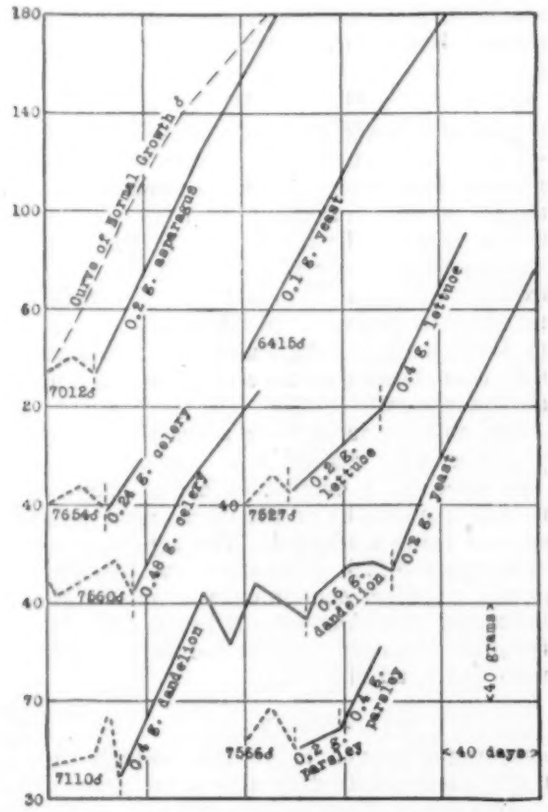
1. Osborne, T. B., and Mendel, L. B.: Biol. Chem. **37**: 187 (Jan.) 1919; **39**: 29 (Aug.) 1920; **41**:549 (April) 1920; **42**: 465 (July) 1920. A very complete list has been published by Sherman, H. C., and Smith, S. L.: The Vitamins, Am. Chem. Soc. Monograph Series, the Chemical Catalog Company, New York, 1922.

2. Osborne, T. B., and Mendel, L. B.: J. Biol. Chem. **37**: 557 (April) 1919.

tion proved to be untenable, however, because when 200 mg. of dried yeast was added to the daily dose of 600 mg. of dried dandelion leaves, satisfactory growth at once ensued.

In the case of parsley, a vegetable which is consumed in small portions at most, our tests showed failure to make gains with 200 mg., but considerable gains for some time when 400 mg. of the dried substance (equivalent to 2.7 gm. of fresh parsley a day) was fed to the rats.

If these vegetables are considered with respect to their content of vitamin B in comparison with apples and pears, or the juice of grapes, examined by us,[3] asparagus, celery and lettuce, at least, will be found to exhibit a larger vitamin B potency in terms of the edible product consumed. What variations in potency,



Recovery caused by measured doses of vegetables when fed to rats that had declined on a diet lacking vitamin B during period indicated by interrupted lines.

such as we have found to exist between different lots of grasses harvested at unlike stages of ripeness,[4] might be found on elaborate investigation of large numbers of samples of green vegetables differing in cultural variety and in their stage of maturity cannot be foretold. The foregoing evidence, however, gives added justification for the nutritive prominence of the vegetable products examined, and serves in part to emphasize their importance in the diet of man.

The accompanying chart furnishes typical illustrations of the recovery caused by measured doses of the vegetables referred to when fed to rats which had declined on a diet lacking vitamin B during the period indicated by the interrupted lines.

3. Osborne, T. B., and Mendel, L. B.: J. Biol. Chem. **42**: 465 (July) 1920.
4. Osborne, T. B., and Mendel, L. B.: J. Biol. Chem. **39**: 29 (Aug.) 1919.

Clinical Notes, Suggestions, and New Instruments

TETRACHROME BLOOD STAIN: AN ECONOMICAL AND SATISFACTORY IMITATION OF LEISHMAN'S STAIN *

WARD J. MACNEAL, M.D., NEW YORK

Since Leishman, in 1901, modified Jenner's blood stain by substituting for methylene blue a methylene blue which had been partly decomposed by treatment with dilute alkali and heat (Nocht's polycrome methylene blue), there have been numerous imitations and slight modifications of this stain described by various workers. In this country the best known of these is the modification of Wright. The results obtained in actual staining by the use of these various modifications are, as a rule, inferior to the pictures obtained by the original stain of Leishman.

In 1905 and 1906, it was shown that the essential dyes of the Romanowsky stain, of which the Leishman stain is a special application, are four in number, rather than three, as had been previously maintained by Giemsa. These four dyes are eosin, methylene blue, methylene azure and methylene violet. The two last mentioned substances were first prepared and named by Bernthsen in 1885. Either methylene azure or methylene violet, in combination with methylene blue and eosin, will produce the red nuclear tint characteristic of the Romanowsky stain. However, the most brilliant and satisfactory results in the staining of blood are obtained when all four dyes are utilized.

Water soluble yellowish eosin and medicinally pure methylene blue are easily obtainable and are not expensive. Methylene azure, which is now made in the United States by oxidizing methylene blue with chromic acid and heat, is also easily obtainable at from 40 to 50 cents a gram, although the German product, Giemsa's Azur I, used to cost five times that amount. A satisfactory preparation of Bernthsen's methylene violet is more difficult to get, and it is not listed by the ordinary dealers in dyes. The preparation of an impure methylene violet is not difficult, but its purification by recrystallization from alcohol is difficult and time consuming. Fortunately the impure, crude substance gives good practical results in staining of blood films.

Crude methylene violet is prepared by dissolving 20 gm. of medicinally pure methylene blue in 9 liters of water, and then adding 20 gm. of crystalline sodium carbonate, previously dissolved in 1 liter of water. The mixture is then heated to boiling for from five to ten hours. The precipitate of long needle crystals is filtered out, washed with distilled water, and dried on a porous plate. The yield is about 5 gm. (25 per cent.). This substance is crude methylene violet. The chief impurities are methylene blue and methylene azure and lesser amounts of difficultly soluble, unidentified substances. These impurities do not seriously impair the usefulness of the product.

In collaboration with Schule,[1] in 1913, it was determined that a mixture of the following composition gave most excellent results in the staining of blood cells and hematozoa: water soluble eosin, 1 gm.; medicinally pure methylene blue, 1 gm.; methylene azure, recrystallized, 0.6 gm.; methylene violet, recrystallized, 0.2 gm.; pure methyl alcohol (Merck's reagent), 1,000 c.c. At that time we recommended the preparation of the stain in two solutions, keeping the eosin separate from the other three dyes, and mixing the two solutions in equal parts shortly before use. The separate solutions keep well for two years, but not for four years. The deterioration appears to be due to the slow oxidation of the alcohol. This change is most rapid when the four dyes are present in the same solution. For the last nine years these solutions have been employed in the routine staining of blood

* From the Department of the Laboratories, New York Post-Graduate Medical School and Hospital.
1. MacNeal and Schule: Post-Grad. **28**: 982, 1913.

films at the Post-Graduate Laboratories, crude products of methylene violet being substituted for the highly purified sample employed in the original tests.

Since 1919, an attempt has been made to interest American dye chemists in the manufacture of methylene violet and particularly in the preparation of a finely ground mixture of the four dyes in a dry state, ready to be dissolved in methyl alcohol in the proportion of 3 gm. to a liter of alcohol. For this mixture of the four dyes the name tetrachrome blood stain has been suggested. Crude methylene violet is used in double the quantity indicated for the pure substance in the foregoing formula.

One manufacturer[2] has prepared a satisfactory mixture of this sort which is designated as tetrachrome blood stain and priced temporarily at one dollar for 10 gm., enough for more than 3 liters of staining solution. An effort is now being made to interest other manufacturers and dealers.

This stain is recommended as a satisfactory imitation of the Leishman stain because of the excellent results in staining blood films, the uniformity of composition and the low cost. The latter is of some importance in large hospitals where many specimens have to be examined daily.

303 East Twentieth Street.

ABSCESS OF THE NASAL SEPTUM: REPORT OF TWO CASES

JOHN A. GLASSBURG, M.D., NEW YORK
Assistant Attending Laryngologist and Otologist, New York City Children's Hospital; Surgeon, Ear, Nose and Throat, Stuyvesant Polyclinic

Acute abscess of the nasal septum is a very uncommon disease. H. Lambert Lack places the frequency at once in from 1,500 to 2,000, and reports only seven cases seen in seven years among about 17,000 patients, ten occurring in children and two in adults. Because of the rarity of this condition, two cases are reported, one occurring in a child and the other in an adult. The patients were seen at the Stuyvesant Polyclinic during the year 1921, and were the only ones among about 5,000 clinic cases.

REPORT OF CASES

CASE 1.—A boy, aged 7½ years, was brought to the clinic by his mother, who in a very vague manner stated that for the last two or three nights the child slept with his mouth open, something he had never done before, and snored heavily. In the morning she noticed that his face was swollen, and, becoming alarmed, she brought him to the clinic. No history of trauma or bleeding could be obtained, but the mother did state that the boy was in the habit of picking his nose. Examination revealed a marked facial edema, beginning at the nares, extending over the nose, the cheeks and the lower eyelids, and reaching to the anterior portion of the ears. The temperature was 103 F. by mouth. Rhinoscopy revealed a complete blocking of both nostrils, at first giving the impression of hypertrophied inferior turbinates pressing against the septum. On closer examination, the angry, red obstructing masses were tender, fluctuating, symmetrical, and originating from the anterior portion of the nasal septum. A long incision into the septum over the swelling was made on each side and pus was evacuated. A fine gauze drain was inserted and the child was seen every other day for two weeks, the incision being kept open by changing the dressing at each visit. Gradually the edema subsided, and at the end of sixteen days the healing was complete and no deformity resulted. The breathing returned to normal and remained unimpaired.

CASE 2.—A pugilist, aged 20, had received a blow on the nose three days before. There was no bleeding, and the only pain he experienced was that at the time of the blow. His only complaint was a progressive difficulty in breathing through his nose, until at the present time he was forced to breathe through his mouth exclusively. Examination of the face was negative as to edema or any signs of an external injury. Rhinoscopy revealed a marked swelling on the left side which gave the appearance of a traumatic deviation of the septum. On the right side there was also a swelling, originating from the anterior portion of the septum. It was much smaller, resembling a spur, only it was more diffuse. Both masses were tender, fluctuating, and soft to the touch. The temperature was normal. Roentgenoscopy revealed a straight septum. Obstruction to breathing was complete on the left side and practically unimpaired on the right side. A long incision on the septum over the swelling was made on the left side, and pus was evacuated. A gauze drain was inserted, and the dressing was changed every other day for one week. The swelling on the right resolved of itself. At the end of twelve days the incision was healed, the septum was straight, and the breathing had returned to normal.

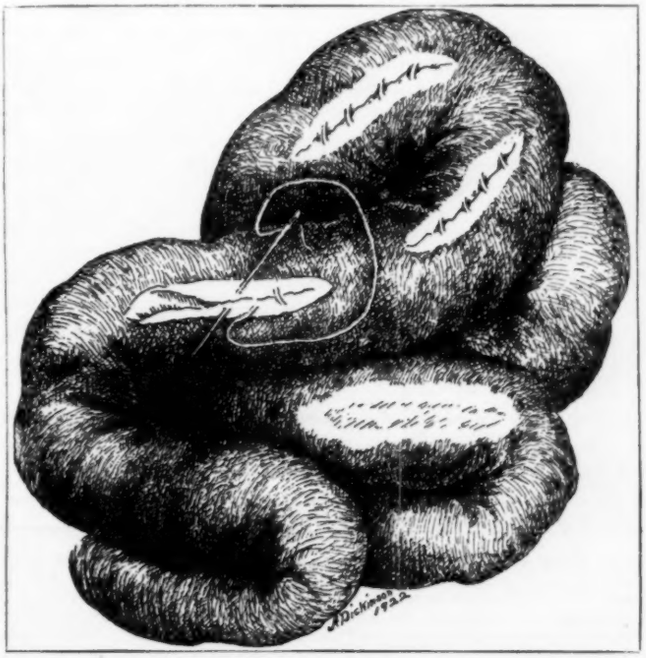
231 East Eleventh Street.

2. Calco Chemical Company, 136 Liberty Street, New York.

METHOD OF DEALING WITH INTESTINAL LOOPS DENSELY ADHERENT TO AN INGUINAL HERNIA

OLIVER C. COX, M.D., WASHINGTON, D. C.

The procedure here reported was adopted to make possible the returning of the contents of a hernia to the abdominal cavity with no raw surfaces exposed.



Patches of hernial sac, consisting of peritoneum, firmly fixed to bowel; edges folded over with fine catgut, covering raw surfaces. (Semidiagrammatic drawing from description.)

Mr. C., seen in consultation with Dr. W. J. G. Thomas, July 19, 1920, for years had had a very large, irreducible, left inguinal hernia. July 18, he began having severe pain in the region of the hernia, followed by nausea and vomiting, and inability to pass gas and feces.

He was removed to the hospital and, under procain anesthesia, the operation was done. The sac contained much blood-tinged fluid, omentum, and very dark but viable intestines. The omentum was densely adherent, and was ligated and removed. It was impossible to separate the intestines from the sac, the external surface of which was raw and bleeding. The intestinal loops were separated and the sac wall was severed, leaving patches of it on the intestines, after the manner described by Cullen.[1] These patches, however, were cut large; and, instead of the free portions being trimmed off, they were folded on themselves and their edges approximated with fine, plain catgut, as in the accompanying illustration.

1. Cullen, T. S.: Method of Dealing with Intestinal Loops Densely Adherent to an Umbilical Hernia, J. A. M. A. 78: 564 (Feb. 25) 1922.

Thus the intestines were recovered with smooth, shiny peritoneum, and returned to the abdomen.

The operation was then completed after the Halstead modification of the Bassini method.

Recovery was uneventful.

Falkstone Courts.

A CHART FOR THE RAPID ESTIMATION OF WOODYATT'S OPTIMAL DIABETIC DIET

DWIGHT O'HARA, M.D., WALTHAM, MASS.
Assistant Visiting Physician, Waltham Hospital

Woodyatt[1] recently discussed the endogenous production of glucose and ketogenic acids in fasting, and added its consideration to the dietetic management of diabetes. He pointed out that the catabolism of 100 gm. of protein liberates 58 gm. of glucose, whether the protein is from the diet, from the tissues, or from both. In like manner the catabolism of 100 gm. of fat, from any and all sources, yields about 10 gm. of glucose. It is therefore impossible to secure absolute rest of the glucose-using function by any means, short of stopping metabolism. The catabolism of protein and fat also produces certain quantities of the higher fatty acids.

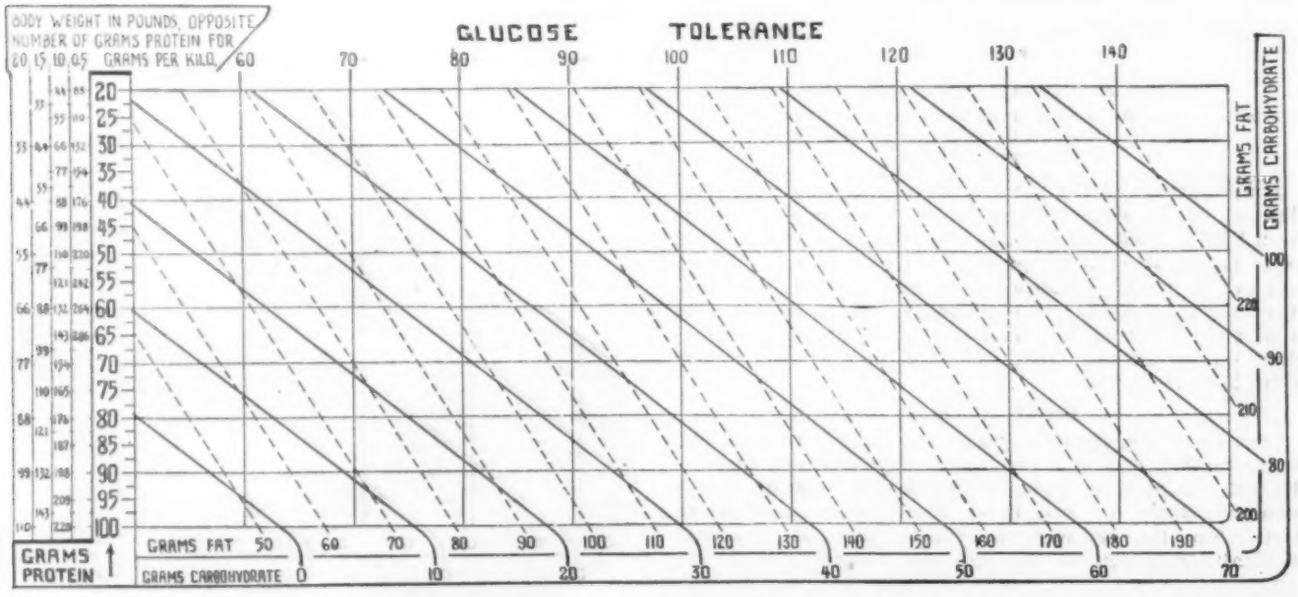
It is the oxidation of this glucose and fatty acids that we are dealing with in diabetes. Their quantities are influenced, but are not determined exclusively, by the diet; for, except under certain conditions, "as the diet falls the endogenous supply rises to take its place, and vice versa." The diet, therefore, does not always correspond to the total food supply actually catabolized.

Based on the generally accepted ideas of catabolic oxidation, Woodyatt has devised a method of estimating the optimal diabetic diet. This method is a scientific attempt to arrange a diet in which the protein can be adjusted to maintain nitrogen equilibrium, in which the ketone products will be compietely oxidized, in which the available carbohydrate will not exceed the glucose tolerance, and in which there will be the greatest possible number of calories for the individual. Such optimal diets may not be necessary except in cases so severe that every possible calory must be allowed. Also, there are many cases of diabetes which are better treated individually than by formula. Woodyatt's work, however, should enable the clinician to see a diet presented to the patient, not as so much protein, fat and carbohydrate, but as a definite combination of glucose and fatty acid. Thus it should have a distinct value in the handling of diabetics.

The original method of figuring the optimal diet has already been simplified into arithmetical tables by Holmes.[2] My purpose here is to present a chart by which the optimal diet may be rapidly approximated.

To ascertain the optimal diet for any individual, it is necessary to know (1) the body weight and (2) the glucose tolerance, or the amount of glucose which the body is capable of utilizing. This is obtained by subtracting the grams of glucose in the urine—quantitated twenty-four hour specimen—from the grams of glucose in the diet—grams of carbohydrate plus 58 per cent. of grams of protein plus 10 per cent. of grams of fat for twenty-four hours. It is also necessary to decide (3) the number of grams of protein per kilogram of body weight which are to be used. The chart is made so that 2.0, 1.5, 1.0 and 0.5 gm. per kilogram may be read directly. One gram of protein per kilogram is probably the most conservative minimum on which to attempt to maintain nitrogen equilibrium.

Directions for using the chart are given in the legend. As an example of its use, imagine a man weighting 140 pounds who, on a diet containing carbohydrate, 10 gm., protein, 140 gm., and fat, 80 gm., eliminates 10 gm. of glucose in the twenty-four hour specimen of urine. The glucose produced by the catabolism of this diet is 10 (carbohydrate) plus 81 (58 per cent. of protein) plus 8 (10 per cent. of fat), which equals 99. All of this has been utilized except the 10 gm. excreted in the urine. The man is therefore able to utilize 89 gm. of glucose, and 89 is his glucose tolerance figure. The number of calories in this diet is approximately 1,320. Forty calories are lost in the urinary glucose, however, so the man actually gets about 1,280 calories. If we want to place this man on an optimal diet which will allow 1 gm. of protein per kilogram, we find that 65 gm. of protein will supply 1 gm. per kilogram for an individual of 143 pounds (65 gm. of protein being opposite 143 pounds in the 1 gram per kilogram column of body weights at the left). The abscissa starting from 65 gm. of protein meets the ordinate starting from 89 glucose tolerance at a point in the chart. The relation of this point to the diagonal lines gives an approximate value of 40 gm. for carbohydrate and of 115 gm. for fat. On this diet, carbohydrate, 40 gm., protein, 65 gm., and fat, 115 gm., the man should be able to utilize his food completely, and should receive 1,455 calories.


BODY WEIGHT IN POUNDS, OPPOSITE NUMBER OF GRAMS PROTEIN FOR 2.0 1.5 1.0 0.5 GRAMS PER KILO.
GLUCOSE TOLERANCE
60 70 80 90 100 110 120 130 140
GRAMS FAT
GRAMS CARBOHYDRATE
GRAMS PROTEIN
GRAMS FAT 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190
GRAMS CARBOHYDRATE 0 10 20 30 40 50 60 70

In using the chart, first find the body weight in pounds, in the grams per kilogram column which is to be used, at the left. Opposite this is the number of grams protein to be used for that weight and for that number of grams per kilogram. Start an abscissa from this point, and an ordinate from the glucose tolerance figure which will be found at the top of the chart. The abscissa and ordinate fix a point in the chart which will have a definite relation to the diagonal lines. By following the solid diagonal line, the grams of carbohydrate for the diet may be read at the lower and right hand margins of the chart. In the same way, by following the broken diagonal lines, the grams of fat for the diet are found.

1. Woodyatt, R. T.: Objects and Methods of Diet Adjustment in Diabetes, Arch. Int. Med. **28**: 125 (Aug.) 1921.

2. Holmes, W. H.: Simplification of Woodyatt Method for Calculating the Optimal Diabetic Diet, J. A. M. A. **78**: 22 (Jan. 7) 1922.

SPASMODIC COUGH FROM PRESSURE OF ENLARGED HILUM GLANDS

JAMES J. CLARK, M.D., ATLANTA, GA.
Associate Professor of Roentgenology, Emory University School of Medicine

A boy, aged 7 years, had had a spasmodic, explosive cough for the last four years. There was no expectoration, fever, or discharge from the eyes or nose. The bowels were open, the appetite fickle. On account of cough, the child had been refused admittance to school for four years, had been expelled from theaters, and had been requested not to attend Sunday school. The child had had scarlet fever, measles, whooping cough and chickenpox. The tonsils and adenoids were removed two years before I saw him, with no effect on the cough. He had been treated by many physicians and given a great deal of medical attention without any relief.

There were no râles heard over the chest. The heart, temperature, pulse and blood were normal. The Wassermann reaction was negative. The boy coughed about five times a minute, the cough being of a brassy, harsh quality. To eliminate pressure from the thymus or an aneurysm, a roentgen-ray examination was made. This disclosed a marked emphysema of both lungs with several large glands near the bifurcation of the trachea in the right and left hilum. As this child had had four years of medical treatment and had taken practically all bronchial sedatives and antispasmodics, it was decided to treat these enlarged glands by roentgen ray on account of the possibility that they were producing pressure on the bronchi sufficient to produce this cough. Four filtered roentgen-ray treatments were given through the anterior and posterior mediastinums. At the end of four weeks the cough had completely disappeared with no recurrence to the present date, which is six months after dismissal.

436 Peachtree Street.

TORSION OF THE CECUM AND ASCENDING COLON

ERNEST K. TANNER, M.D., BROOKLYN

As was aptly stated in a recent editorial comment,[1] if surgeons would report more regularly in the literature unusual cases which they see, much better data would be available as to the frequency of various less common pathologic conditions. There would also be given valuable information to guide other operators in dealing with similar problems of their own. Most surgeons have had the experience of reading a report of some unusual case and having it bring to mind a similar condition in their own practice which they had not reported.

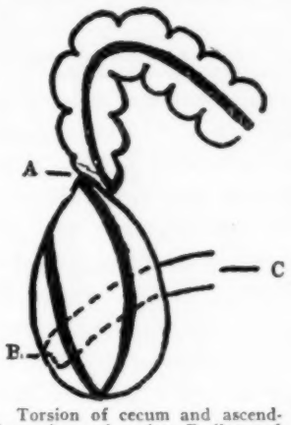
The recent article by Homans[2] on "Torsion of the Cecum and Ascending Colon" reminded me of a case which presented an even more clear-cut example of the condition than the cases which were there described.

REPORT OF CASE

A woman, aged 24, referred to me by Dr. Florence Wilson, and admitted to the Brooklyn Hospital, April 22, 1920, had undergone several laparotomies, including one for tuberculous salpingitis, an appendectomy, and a gastro-enterostomy for duodenal ulcer. The day before admission, while lifting a heavy child, she was taken with a sudden severe pain in the right abdomen, accompanied by some nausea but no vomiting. Rest in bed brought no relief, and she was sent to the hospital, where examination revealed moderate abdominal distention, more marked on the right side than on the left, moderate right sided tenderness, and no rigidity; no mass could be definitely palpated. The bowels had not moved since the onset.

The patient was observed for two days, but there was no improvement in her condition in spite of treatment by posture, enemas and restricted intake. There was no vomiting or bowel movement, but some increase in the distention and rise in the pulse rate. A preoperative diagnosis was made of mechanical obstruction of the bowel without strangulation, probably by a band or kink.

At operation, April 24, many adhesions were found between the intestinal coils and adhesions of the intestines to the abdominal wall. There was a twist of a much dilated, mobile, low-hanging cecum and the lower half of the ascending colon on the long axis, the point of torsion being about the middle of the ascending colon, where the bowel was firmly fixed and narrowed by a dense band of adhesions. The rotation was in a clockwise direction as one looked upward, and was fully 180 degrees in extent, carrying the ileum behind the cecum so that the ileocecal valve was on the outer side.



Torsion of cecum and ascending colon: *A*, twist; *B*, ileocecal valve; *C*, ileum.

The volvulus was untwisted, the constricting bands were freed, and the cecum and the ascending colon were tacked in proper position by interrupted sutures to the parietal peritoneum well back in the lateral fossa. Recovery was fairly normal except for a low grade fat infection.

Two months later the patient's physician reported that the abdominal condition was satisfactory, there being no pain or obstructive symptoms. A roentgen-ray study a year later for a suspected gastrojejunal ulcer disclosed the cecum and ascending colon apparently perfectly normal in position, size and contractility.

A possible explanation of the mechanics of this particular case would be that the dilated mobile cecum had rolled forward on its fixed point as the girl bent forward, and had then been forced downward *en masse* in this twisted position as the strain of lifting the child increased the intra-abdominal tension.

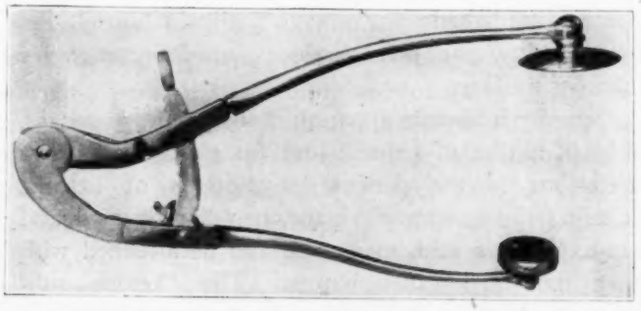
1205 Dean Street.

1. The Value of Case Reports, Current Comment, J. A. M. A. **78**: 285 (Jan. 28) 1922.
2. Homans, John: Torsion of the Cecum and Ascending Colon, Arch. Surg. **3**: 395 (Sept.) 1921.

SELF-RETAINING RADIUM HOLDER FOR TONSIL WORK

COSBY SWANSON, M.D., AND WILLIAM H. HAILEY, M.D., ATLANTA, GA.

When we began to use radium for selected cases of hypertrophied and infected tonsils, great difficulty was experienced in getting patients to hold the radium against the tonsil. It occurred to us that a tonsil hemostat could be used for this purpose.



Self-retaining radium holder for tonsil work.

The spring clamps to hold the gauze pad and the knob were removed from the inner blade of a Corwin tonsil hemostat. The hole in the inner blade was enlarged so as to fit the peg on a 30 mg. oval radium plaque. A rubber cot was placed over the radium and inner blade, and the device was then ready to be placed in position.

436 Peachtree Street.

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SATURDAY, APRIL 15, 1922

CHANGING TENDENCIES IN THE DIETOTHERAPY OF DIABETES

Opinions on the dietary treatment of diabetes mellitus are admittedly in a state of flux. Physicians of experience can easily recall the varied advice which those interested in the nutritional aspects of the disorder have promulgated from time to time. The futility of feeding large quantities of carbohydrate to a patient manifestly incapable of utilizing this type of foodstuff for the metabolic needs of his organism early became apparent. As a consequence, the procedure of excluding sugars and starches as largely as possible from the diabetic dietary early gained therapeutic popularity. The carbohydrate-free or carbohydrate-poor regimen was at first employed essentially with the intent of saving the body from the gratuitous task of digesting, absorbing and "assimilating" products that were no longer oxidized, or at least utilized in only a small measure by the tissues, but were promptly excreted unused. Considerable discomfort was averted by establishing conditions in which the quantity of sugar in the urine was markedly decreased and the volume output consequently reduced materially. In other respects, however, the attempt was made to feed the patients liberally with proteins and fats, often with the avowed aim of causing the diabetic not only to maintain himself but even to gain weight and thereby assumedly promote his nutritive welfare.

Presently it became apparent that in many instances, at least, a diet of protein and fat alone may prove deleterious to the patient. Symptoms of ketosis, including the excretion of acetone, diacetic acid and beta-oxybutyric acid, may arise and be attended with other untoward consequences. The "ketone substances" were demonstrated to be derived from fats; and it became apparent that, in many instances at least, they do not arise if some carbohydrate is available for metabolism. Thus the dictum arose that "the fats are burned in the flame of the carbohydrates." Starvation may be attended with some ketonuria. It can be prevented by the administration of carbohydrates in quantities which may not in themselves be sufficient to maintain the body, yet will avoid the appearance of acetone. Since, furthermore, the ketonuria of severe diabetes is usually increased by an abrupt change to a diet that contains no carbohydrate but does contain large quantities of fats and proteins, the problem of supplying at least a modicum of carbohydrate has given concern to many clinicians. They were confronted with the difficult task of steering between the Scylla of glycosuria and the Charybdis of ketonuria.

A further complication and premonition of danger has arisen from Allen's contention that hyperglycemia must be avoided at any cost. If the pancreas is primarily involved in the metabolic derangements in diabetes, and this organ is susceptible to further functional damage whenever it is called on to provide for an additional load of sugar-converting work, obviously the pancreas must be spared from such a strain. Thus the burden of adjustment grows. Sugar is bad for the disorganized pancreas; yet, without sugar, fats cannot be utilized properly. Added to the mysterious misfortunes came the discovery that the proteins—the only remaining purveyors of energy—are themselves potential sources of sugar in the metabolism. At best, the problem of sustenance in the diabetic seems to involve the discovery of his tolerance not only for carbohydrates, but for fats and proteins as well. Whether the patient shall be starved to the point of such tolerance, as many have advocated during the last few years, is again being openly debated. We are told that the fasting procedure "has made attainable the ideals of treatment, namely, a sugar-free and acid-free urine. The standards of the success of treatment are so simple that they are within the reach of the patient. At one stroke the patient is delivered from medicines, 'patent' or otherwise, sham kinds of treatment, gluten breads, and in ninety-nine cases out of a hundred of alkalis."[1] But what shall be said of the prognosis?

Obviously, no person can be maintained for a very long period unless a satisfactory nitrogen balance can be established. The organism cannot continue to play a losing game with its supply of protein. Furthermore, if the nitrogen balance is to be maintained on a low protein intake, the total calories in the food must be sufficient to supply calorific need. There must, in other words, be enough fat or carbohydrate or both in the diet so that the protein may be used to maintain and restore body tissue. The protein-sparing properties of fats and carbohydrates in healthy persons have long been known to students of nutrition. Fat alone does not suffice so well. Marsh, Newburgh and Holly[2] of the University of Michigan Medical School have demonstrated anew that nitrogen balance can be established in the diabetic according to the laws applicable to the normal subject, provided his total caloric requirement can be satisfied. This, they add, implies that he

1. Joslin, E. P.: Am. J. M. Sc. **150**: 489, 1915.
2. Marsh, P. L.; Newburgh, L. H., and Holly, L. E.: The Nitrogen Requirement for Maintenance in Diabetes Mellitus, Arch. Int. Med. **29**: 97 (Jan.) 1922.

can burn enough glucose to metabolize fat. Diabetics who cannot burn this small amount of glucose are extremely rare. The upshot of this is to negative the widely accepted belief that patients with diabetes mellitus require more protein for the establishment of nitrogen balance than do normal subjects, and that there is, as an inherent part of the disease, an abnormally high rate of protein metabolism with an increased elimination of nitrogen.

Granted that there is no undue need for protein in the diabetic, it may be asked whether any advantage whatever is gained from the more liberal supply of this nutrient. To this the Michigan clinicians reply that protein metabolism above the minimal is undesirable in the diabetic because of the great glycogenic property and the large specific dynamic action of protein. Excessive protein metabolism results from a diet containing either too much protein or too few total calories. If a diabetic has lost the ability to burn both carbohydrate and fat, he is inevitably compelled to resort to protein as a source of energy. When these extreme conditions do not exist, however, perhaps there is greater justification today to draw more liberally on fats than has been done in recent years. At any rate, the high-fat, low-protein, low-carbohydrate diet championed by Newburgh and Marsh [3] is beginning to demand respectful consideration.

THE THERAPEUTIC USE OF YEAST AND VITAMIN PREPARATIONS

The medical profession is unquestionably facing a problem in connection with the current widespread public propaganda for the therapeutic use of yeast and so-called vitamin preparations. Every person who reads—whether it be the monthly or weekly magazines, the daily newspapers, or even the billboards—is likely to find gratuitous reminders that he is confronted with menaces to health which not only ought to be averted but can readily be remedied, when present, by the simple expedient of a potent medicine or proprietary product. This is not a novel situation. Medical, like social and economic panaceas, belong to every age. They are called forth by a variety of provocations. Frequently a real danger, difficult to cope with, uncertain in its outcome, widespread in its incidence, elicits a score of alleged remedies. If cholera or infantile paralysis or influenza chances to gain a foothold somewhere, the offers of "sure relief" are not slow in following. Sometimes they are asserted to be curative, or again merely prophylactic. Usually they are the devices of the quack, quick to profit by a serious situation; but it would be unjust to the better elements in human nature to deny that many of these remedies for our ills represent the earnest intent of well meaning persons to help in time of trouble. They all too often fail to take into account the limitations of our knowledge, on the one hand, or the helplessness which often springs from an actually irremediable condition of disease. Under such circumstances, the public and even the physician may grasp for any straw—even against the dictates of his own wisdom and experience.

If some of the claims of the advocates of a widespread yeast or vitamin therapy regarding the well-nigh universal danger of vitamin starvation were warranted, one might still question whether special "concentrated" or vitamin-rich medicaments were called for to remedy the situation. The tentative conclusions of the Council on Pharmacy and Chemistry of the American Medical Association, printed in detail elsewhere in this issue of THE JOURNAL,[1] must appeal to every thinking physician. An extensive inquiry has led to the deduction that disease states attributable to lack of vitamin B (with which alone yeast and its derivatives are concerned) are certainly not widespread in this country. Surely no educated physician would be satisfied to identify the indiscriminate diagnoses of "lack of vigor," "run down condition," "lowered resistance" and similar generalizations with some obscure avitaminosis — a sort of latent beriberi or "specific anorexia." If medical diagnosis of obscure conditions is to be self-made in this fashion, the outlook for progress in the mastery over real disease is, indeed, dreary.

No one will deny the great contribution which the discovery of the vitamins has made to physiology and medical progress. It shares with the current conceptions of food energy in adding helpful ideas to the science of nutrition both in health and in disease. There is no reason, however, to seek calories in tablets. Why shall vitamin B be sought by every family on the druggist's shelves rather than in the garden or the grocery, the dairy or the meat market?

The crux of the present situation has already been referred to in these columns.[2] The proof of a superiority of special vitamin B preparations in all except a possible few conditions remains to be demonstrated. Even an enthusiast will be forced to admit, with the Council's report, that yeast or yeast-vitamin therapy has at present nothing more than an experimental status, except perhaps in a few not easily definable conditions for which yeast has been traditionally recommended without finding any considerable acceptance. Self-medication or take-a-chance medication even with a harmless product is not always a harmless performance. There is danger in deception. Real therapy is based on correct diagnosis. We must never deceive ourselves by an ardent desire for therapeutic panaceas.

3. Newburgh, L. H., and Marsh, P. L.: The Use of a High Fat Diet in the Treatment of Diabetes Mellitus, Arch. Int. Med. **26**: 647 (Dec.) 1920.

1. Page 1146.
2. The Demand for Vitamins, Current Comment, J. A. M. A. **78**: 810 (March 18) 1922; Our Knowledge of Vitamins, **78**: 734 (March 11) 1922.

THE DIGESTION OF SUGAR

One hundred years ago the total per capita consumption of sugar in the United States was less than 9 pounds a year. It has increased by leaps and bounds, until now this country is probably the largest consumer of sugar in the world, in proportion to its population. Kellogg and Taylor[1] estimated the per capita use just before the war at close to 4 ounces a day, and the popularity has not decreased since sugar has again become an inexpensive article of food. Directly or indirectly, sugar enters into the dietary of man at the table, in the conservation of fruits, in cookery, and in the form of confections and beverages. The comparatively late inroad of sugar into our national dietary regimen indicates that it is by no means indispensable for a life of health and efficiency; but, as a recent writer has remarked, sugar contributes enormously to the psychology of the diet, and a reduction of sugar, like a reduction of milk, is likely so to upset the cuisine as to make the diet unsatisfactory to many.

The preceding comments apply, of course, primarily to the carbohydrate sucrose, $C_{12}H_{22}O_{11}$, which is consumed for the most part as cane sugar or beet sugar, and in lesser amounts in such other natural products as maple sugar. Glucose, $C_6H_{12}O_6$, though closely related to the disaccharid sucrose, has a somewhat different physiologic position; for, whereas glucose can be utilized directly by the organism, whether this sugar is taken by mouth or even introduced directly into the blood stream in reasonable amounts, sucrose must first be digested, i. e., converted into invert sugar, a mixture of glucose and fructose, before it can be utilized.

Where is the inversion or digestion of "table sugar" ordinarily accomplished? It is well known that the intestinal glands secrete an inverting enzyme capable of bringing about the requisite digestive change in sucrose prior to its absorption. Sucrose is also easily inverted by acids even in weak concentration; and it has long been known that the acidity of the gastric juice is sufficient to effect this chemical reaction. As the secretion of the stomach can invert sugar in vitro, it has been assumed to be responsible for the digestion of this carbohydrate after meals. Hill and Lewis[2] have recently pointed out, however, that factors other than mere acidity must be taken into account when hydrolysis of sugar in the stomach is under consideration. The rate of discharge of sugar-containing contents from the stomach may greatly limit the time during which the gastric acid can act upon the ingested sucrose; and regurgitation of intestinal contents into the stomach may also serve to furnish an inverting enzyme. In experiments which Hill and Lewis have conducted on man at the University of Illinois by the method of fractional analysis of gastric contents after ingestion of sugar, it has appeared that the inversion under normal conditions is too slight to be of significance, as carbohydrates leave the stomach too rapidly to permit of prolonged action of the acid. It has not been possible to demonstrate the presence of an active sucrase in gastric contents in spite of the fact that intestinal regurgitation had occurred in many cases, as evidenced by the presence of bile. These findings relegate the essential digestion of the sugar which forms no inconsiderable component of our daily diet for the most part to the intestine.

1. Kellogg, V., and Taylor, A. E.: The Food Problem, New York, the Macmillan Company, 1917, p. 171.
2. Hill, R. M., and Lewis, H. B.: The Hydrolysis of Sucrose in the Human Stomach, Am. J. Physiol. **59**: 413 (Feb.) 1922.

ORIGIN OF CHOLESTEROL IN THE BODY—A PROBLEM

More than a hundred years have elapsed since the French chemist Chevreul, in 1814, gave the name cholesterin (now usually changed to cholesterol to indicate its alcohol-like character) to a nonsaponifiable, fatlike substance which Fourcroy had long before isolated from gallstones. Although confirmed in the belief that cholesterol or closely related substances are ever present components of all active cells of the body, the physiologist still hesitates to assign a well defined rôle to the organic compound which he nevertheless recognizes as physiologically important. The chemist has thus far failed to unravel completely the intricacies of the structure of cholesterol. Little wonder that the pathologist who often finds cholesterol present in undue amounts in calculi, in tissue fluids, and in various organs is at a loss to interpret his observations or incorporate them into a tenable hypothesis as to the function, either normal or pathogenic, which the lipoid compound may perform.

The need of knowing how and where cholesterol originates in the body is obvious. Cholesterol or related "sterols" occur not only in animal tissues but also in plant structures which form the food of man. Are they derived, in ultimate analysis, from vegetative forms so that the plant world is responsible for their origin? If so, the dietary relations of cholesterol cannot fail to be important. Or, can this lipoid be produced de novo in the animal organism? Can this significant component of the blood corpuscle and glandular cells, of the brain and the skin secretion, arise by synthesis in the cells of the body? Data on the balance of intake and output of cholesterol from the organism furnishing a balance sheet which might give an answer to the questions at issue are not very abundant.

Statements are not lacking to indicate that the excretion of cholesterol in the feces can be largely accounted for by that taken in with the food, so that there seems to be no need of assuming a new formation of cholesterol in the body and its subsequent removal by paths of elimination into the bowel. The latest word comes from Gardner and Fox[1] at the University of London.

1. Gardner, J. A., and Fox, F. W.: On the Origin and Destiny of Cholesterol in the Animal Organism, XII, On the Excretion of Sterols in Man, Proc. Roy. Soc. London, Series B **92**: 358 (Dec. 1) 1921.

It is, of course, well known that the sterols excreted in the feces are partly derived from the bile as well as from the food. But according to the London experiments on man there is, under ordinary conditions of diet, regularly an excess of output over intake; hence it is concluded that there must be an organ in the body capable of synthesizing cholesterol. The justification for searching out the seat of manufacture rests not only on these balance data but also on other less cogent evidences of other sorts. If the organ or tissues concerned are discovered, many of the puzzling features of cholesteremia, of cholesterol deposits, of hemolysis in which lipoids are concerned, of fat transport, and other now perplexing reactions may be somewhat clarified. The search is a project well worth while.

AMERICAN MEDICAL JURISPRUDENCE AND THE EXPERT WITNESS

In this country medical jurisprudence, that is, the practical application of medical knowledge to problems in the administration of law, remains in a more or less chaotic state. That there is a general lack of interest by officers of government and by the medical and legal professions in building up this valuable branch of medicine is seen in our low standards of postmortem examination, in our methods of toxicologic and other analyses, in the failure of even our largest cities to maintain adequate medicolegal institutes, and in the dearth of organizations and publications to deal with the many scientific and practical questions of medical jurisprudence in its various ramifications, which consequently lingers in an unorganized and discreditable state without gaining in social value.

Unquestionably, a most serious obstacle to better things in medical jurisprudence here is the method of selecting and paying the expert witness by the litigants themselves. Under this system, expert testimony only too often is of no value; the conflicting experts, called by plaintiff and defendant, merely bewilder the jury and amuse or disgust the public. In a recent presidential address before the Ohio State Bar Association, C. E. McBride [1] pleads for selection of expert witnesses by the court, and compensation by the state or county or to be collected as part of the costs of the trial, as a remedy for the manifest evils of the present system. These evils are emphasized strongly, as illustrated by quotations from different judges in support of the general statement that "the uncertain and contradictory character of expert testimony has weakened its force and effect in the trial of causes":

> Considerable experience has taught me that the testimony of experts who are selected by the party in whose behalf their testimony is to be given, and where testimony in his favor is assured beforehand, is likely to be considerably influenced by the fact that the experts have been employed as such by the party calling them, and that while on the stand they are paid to have a theory, which they are zealous to maintain; and as a general rule they fall short of that impartiality which characterizes ordinary witnesses in courts; and this observation has led me to scrutinize with great care the testimony given under such circumstances. . . .
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> The present system of presenting the testimony of experts, in the courts, is poorly calculated to assist in arriving at the exact truth. The expert produced as a witness has almost invariably given assurance that he will swear to an opinion favorable to the party calling him, and for this he usually receives a fee proportioned to his estimate of the value of his opinion to the side for which he testifies. . . .
>
> Expert evidence, so called, or, in other words, evidence of the mere opinions of witnesses, has been used to such an extent that the evidence given by them has come to be looked upon with great suspicion by both courts and juries, and the fact has become very plain that in any case where opinion evidence is admissible the particular kind of an opinion desired by any party to the investigation can be readily procured by paying the market price therefor. He (the expert) comes on the stand to swear in favor of the party calling him, and it may be said he always justifies by his works the faith that has been placed in him.

From the nature of the case, the introduction of better methods than the present rests largely with the legal profession; but physicians in general, and particularly all who are interested in medical jurisprudence, will favor strongly the adoption of some system that shall increase and not hamper the services which this branch of medicine, properly used, can render to society. In the meantime, determined efforts should be made by organization of those who are concerned directly, and in other ways, to promote the development of American medical jurisprudence.

1. McBride, C. E.: Selection of Expert Witnesses: Method of Choice by Court, with Certain Standardized Compensations, Likely to Secure More Disinterested Testimony and Thus Tend to Remove One Ground of Public Criticism, Am. Bar A. J., 1922, p. 171.

Current Comment

UNSETTLED STATUS OF INTRACELLULAR ACIDOSIS IN MUSTARD GAS POISONING

The belief that war gases will continue to occupy a leading position among the implements of future wars prompts further consideration of these substances. During the World War, information about the activities of the Germans with war compounds, especially mustard gas, was largely conjectural. A disclosure of these activities has been awaited in various quarters with interest. There is no doubt that in this field the Germans were quite as active as in others. This is indicated by an exhaustive series of reports,[1] according to which the results with phosgen and some other pulmonary irritants generally agree with those of the American investigators; but when it comes to mustard gas (dichlorethylsulphid), there is a marked difference of opinion. The actions of this gas are reported on by Flury and Wieland. These investigators disagree entirely with the notion that the cause of lesions (burns, etc.) by mustard gas is due to the intracellular liberation of hydrochloric acid, attractive as this explanation appears to be. It will be recalled from a

1. Ztschr. f. d. ges. exper. Med. **13**: 579, 1921.

previous editorial [2] on the achievements of American investigators along this line, notably Marshall and his colleagues, that the mechanism of action of mustard gas consists of intracellular liberation of hydrochloric acid. In certain directions the evidence seemed convincing. Flury and Wieland, however, state positively that vesication, burns and other lesions can occur from certain oxidation products of mustard gas which dissolve in water without chemical decomposition and are nonvolatile at ordinary room temperature, and for this reason they discard the acidosis theory. These products are dichlorethylsulphoxid and dichlorethylsulphone. Dichlorethylsulphone, in minute concentrations, was found to produce the characteristic effects of dichlorethylsulphid (mustard gas), and the most important difference from mustard gas was that its action occurred earlier and more rapidly. The German investigators lay stress on capillary paralysis by sulphur products as the cause of lesions by dichlorethylsulphid. Intracellular acidosis was also rejected as the cause of lesions produced by arsenical compounds, of which more than a hundred were studied by Flury in a separate report of this series. All of this leads naturally to the conclusion that the mechanism of action of mustard gas is still unsettled.

THE GROWING MENACE OF BENZENE (BENZOL)

A recent article by Dr. Alice Hamilton [3] in THE JOURNAL, regarding the growing menace of poisoning with benzene in this country, deserves attention because the peculiar properties and industrial relationships of this coal tar distillate are not yet clearly realized by many. Benzene (C_6H_6, commonly termed benzol) is frequently contaminated with toluene (toluol), xylene (xylol) and other products derived from the distillation of coal tar. Formerly used almost exclusively as a solvent in this country in competition with other organic compounds, it has gained rapidly in popularity since the World War, for commercial reasons pointed out by Hamilton. In fact, she observes that probably we shall presently find the pretroleum distillates supplanted by the coal tar in the making of varnish, quick drying paints and shellacs, and in dry cleaning, if not in the making of spread rubber goods and dipped rubber goods, as is done in Europe. Benzin, which is often confused in name with benzene, is, like gasoline, a petroleum product of hydrocarbon make-up. The naphthas also belong in this group. Although all of these products are sources of menace to workmen and others, their vapors do not approach those of benzene in toxicity. Since the increasing use of the latter has been described as "a disastrous innovation in industry," it is highly important to have the greater danger emphatically brought to public attention. Lately, Henderson and Haggard [4] of the Laboratory of Applied Physiology at Yale University have pointed out the difference in the toxicity of the exhaust gases resulting from the use of different fuels in motors. The problem is one of the utmost importance in connection with the ventilation of spaces in which such combustion wastes can accumulate. Carbon monoxid affords the chief menace, in any case. According to the Yale investigators, in the exhaust gas from gasoline, carbon monoxid is the only considerable toxic constituent. In the exhaust gas from coal distillate (benzene, etc.), and in illuminating gas, there are present accessory toxic substances.

2. The Mode of Action of Mustard Gas—Dichlorethylsulphid, editorial, J. A. M. A. **72**: 1678 (June 7) 1919.
3. Hamilton, Alice: The Growing Menace of Benzene (Benzol) Poisoning in American Industry, J. A. M. A. **78**: 627 (March 4) 1922.
4. Henderson, Yandell, and Haggard, H. W.: The Physiological Principles Governing Ventilation When the Air Is Contaminated with Carbon Monoxide, J. Indust. & Eng. Chem. **14**: 229 (March) 1922.

THE VILLI OF THE INTESTINE

The enormous number of villi which the small intestine contains, as well as their intricate structure, bears witness to the presumable importance of these parts of the mucosa in the alimentary functions. The villi are, indeed, somewhat unique in that they offer two conspicuous channels by which substances which have succeeded in traversing the intestinal epithelium can find their way into the general circulation. The central lacteal of each villus provides a direct path into the lymphatics that ultimately pour into the thoracic duct, wherefrom their contents finally become transferred into the systemic blood stream. The blood capillaries of the villi offer another channel of absorption. What physical and chemical forces come into play in promoting absorption in the villi has long been a subject for debate. It is well known that, from the muscularis mucosae, unstriated muscle fibers pass through the villus to various internal attachments. Despite the extensive studies on the functional activities of the more conspicuous intestinal musculature, less consideration has been given to the contractile tissue associated with the villi, although it has often been suggested that contractions of the latter might facilitate the movements of fluid in the lacteals. In 1914, Hambleton [1] pointed out that, with the aid of the binocular microscope, the villi can be observed under suitable conditions during life. The fact that they exhibit shortening, lengthening and lateral movements reemphasized the possible aid of such mechanical factors in the processes of absorption. More recently, King and Arnold [2] of Vanderbilt Medical College have added observations of a similar sort. The movements of the intestinal villi may, according to them, exhibit some degree of rhythmicity in response to suitable stimuli. These contractile phenomena of individual villi may or may not be associated with movement of the mucosa as a whole. Both chemical and mechanical stimulation may set the mucosal mechanism into activity. The reaction is local in character, and there does not appear to be any definite interdependence or correlation between the activities of the outer and mucosal motor mechanisms. The mucosal motor mechanism is most active and reactive in the duodenum and upper jejunum, less so in the lower jejunum, and almost refractory in the ileum. The mechanism is very sensitive to anemia as well as to thermal changes. Now that the essential facts are becoming better known, some of the puzzling features of the pathology as well as the physiology of

1. Hambleton: Am. J. Physiol. **34**: 446, 1914.
2. King, C. E., and Arnold, L.: The Activities of the Intestinal Mucosal Motor Mechanism, Am. J. Physiol. **59**: 97 (Feb.) 1922.

absorption, including a great diversity of so-called "digestive upsets," may be brought nearer to a tenable explanation.

EXTRAVITAL CULTURE OF EPITHELIAL TISSUE

The extravital culture of tissues, successfully introduced by Ross G. Harrison of Yale University, has aroused much interest because of the promise which it holds out for the discovery of fundamental factors that may promote or retard the growth of cells. Through Harrison's beautiful culture experiments with nervous tissue taken from the embryo, the ameboid outgrowth of the nerve fibers from the cell was demonstrated. Thus, Garrison wrote in his History of Medicine, by purely physical and chemical methods, the whole nervous system was finally brought under the cell doctrine of Schwann and Virchow.[1] Among other tissues, the greatest success thus far has attended the study of the connective varieties, largely owing to the efforts of Carrel and his co-workers at the Rockefeller Institute for Medical Research. The possibility of maintaining cultures of connective tissue cells alive and growing for years has already been demonstrated. Although the cultivation of epithelium outside the living body has offered much greater difficulties, this, too, has at length become an accomplished feat; Fischer[2] has already maintained a strain of pure epithelial cells from the iris in vitro for more than three months without any sign of deterioration. It continues to proliferate without losing its epithelial characteristics, and grows as a pavement membrane in tissue culture. Thus it will doubtless become possible to study in new ways and on a number of representative tissues the manifold conditions under which various forms of growth, including so-called neoplasms, arise, as well as to ascertain the influences that accelerate or retard the growth processes. Even the hope of victory over cancer has been involved in the program of such investigations. As Lee[3] has written, in extolling the scientific features of modern medicine, it is not possible at present to foretell how far this kind of investigation will carry us. One practical result may be the discovery of means by which the healing of wounds, which is now left largely to nature, may be greatly accelerated. In the moods of our greatest optimism, he concludes, we may be permitted to dream of far greater and far more wondrous achievements.

1. Garrison, F. H.: History of Medicine, Ed. 3, Philadelphia, W. B. Saunders Company, 1922, p. 564.
2. Fischer, A.: A Three Months Old Strain of Epithelium, J. Exper. Med. 35: 367 (March) 1922.
3. Lee, F. S.: Scientific Features of Modern Medicine, New York, Columbia University Press, 1911, p. 152.

Work During Pregnancy.—Motherhood is a normal physiologic function and should be the natural right of every woman, but civilization makes it in many cases abnormal. It is advisable that the expectant mother should remain under her accustomed conditions as nearly as possible, provided they have no harmful effects upon her or her future offspring. Work, if not harmful in its effects, should be continued. The same conditions as to diet and exercise should be advised as before pregnancy occurred.—A. L. McIlroy, *Nation's Health* 4:134 (March) 1922.

Association News

GRANTS FOR RESEARCH IN THERAPEUTICS

The Committee on Therapeutic Research of the Council on Pharmacy and Chemistry will consider applications for grants to assist research in subjects which, in the opinion of the committee, are of practical therapeutic interest to the medical profession, and which research might not otherwise be carried out because of lack of funds.

Requests should state the specific problem which is to be studied, the qualifications of the investigator, the facilities available to him, and, if work is to be undertaken in an established research institution, the name of the individual who will have general supervision. The committee will also appreciate offers from research workers to undertake investigations of questions which may be suggested by the Council.

Applications should be addressed to: Chairman, Therapeutic Research Committee, Council on Pharmacy and Chemistry, 535 North Dearborn Street, Chicago, Illinois.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Hospital News.—The Woodlawn Hospital, Birmingham, was formally opened, March 16. Dr. J. H. Stephens is the owner of the building.

Personal.—Dr. Wilbur A. Sellers, Montgomery, was shot and seriously injured, March 11, in a local hotel by L. H. Seawall, a drug salesman. Dr. Sellers will recover.

Baldwin County Medical Society.—At a meeting in honor of Dr. L. W. Roe, held at Bay Minette, April 4, Dr. Roe spoke on "Recreation of the Old Family Doctor."

University of Alabama.—At the meeting of the Council on Medical Education and Hospitals held in Chicago in March it was voted that the University of Alabama School of Medicine be rated in "Class A."

John A. Andrew Clinical Society.—The eleventh annual clinic and the fourth annual meeting of the society was held at the Tuskegee Institute, Birmingham, April 3-5, under the presidency of Dr. Henry C. Bryant. The second annual postgraduate course in medicine and surgery and the first annual postgraduate course in nurse training will be held at the institute, April 1-28. A statue of Booker T. Washington, founder and principal of the Tuskegee Institute, who died in 1915, was unveiled, April 1, by Dr. Emmett J. Scott, his former secretary. The statue is a national gift of some 100,000 American negroes.

CALIFORNIA

Southern California Medical Society.—The sixty-sixth semiannual meeting of the society was held at San Diego, April 7-8, under the presidency of Dr. William Duffield, Los Angeles.

California Lepers.—Thirty-three lepers—all the known lepers of the state—were taken in an isolation car to the new federal leprosarium at Carrville, La., recently, for treatment with chaulmoogra oil. The trip was made under the supervision of Dr. W. T. Harrison, U. S. Public Health Service.

New Medical Society.—At a meeting of local physicians, March 28, in Madera, the Madera County Medical Society was formed with the aid of Dr. William E. Musgrave, Sacramento, secretary of the Medical Society of the State of California. Dr. Dow H. Ransom was elected president and Dr. Ray R. Dearborn, secretary.

Personal.—Dr. James A. Ramsay has been appointed general manager and chief physician at the Hillcrest Hospital, Hemet, to succeed Dr. Verdo B. Gregory, who has retired.

from practice.——Dr. Wendall A. Jones, Arlington, has been appointed superintendent of the Riverside County Hospital, Arlington, to succeed Dr. Edward H. Wood, who has been granted leave of absence for one year and will sojourn in the East.——A dinner was given in honor of Dr. Eva C. Reid, in recognition of her services as after-care physician of the California state hospitals, by the Social Workers' Alliance, March 28. Dr. Reid has accepted a position with a psychiatric clinic in New York.

CANAL ZONE

Gorgas Memorial Site Provided.—At a meeting of the board of directors of the Gorgas Memorial Institute in Washington, D. C., April 1, it was announced that the Panaman government has provided a site for the proposed institute of Tropical and Preventive Medicine in Panama. The site which is adjacent to the St. Thomas Hospital contains laboratories and buildings and represents a cost of approximately $500,000. Dr. Richard Strong, professor of tropical medicine, Medical School of Harvard University, who is director of the institute, arrived in Panama recently for a stay of six weeks and expects soon to have a staff completed and to begin work. Contributions for this school, as well as for the Tuscaloosa memorial, will be collected from the various states and from private contributions, with substantial help from the South American republics. The board of directors also announced the appointment of the following directors of the Gorgas School of Sanitation, to be erected at Tuscaloosa, Alabama: Dr. S. W. Welch, Alabama; Dr. Charles F. Dalton, Vermont; Dr. A. J. Chesley, Minnesota; Dr. E. G. Williams, Virginia; Dr. Lloyd Noland, Tennessee, and J. A. LaPrince, representing the U. S. Public Health Service. This board will meet at Tuscaloosa the first week in May and arrange the course of instruction leading to degrees or certificates in sanitary engineering, sanitary inspection, public health nursing and teaching and dental hygiene. It is expected that the faculty will be elected at the same time. The board also decided to establish a department of dental hygiene in the Tuscaloosa school, at the urgent request of the dentists of the South, who will be expected to raise the endowment fund to carry on the work. Plans were discussed for the raising of the $6,000,000 endowment for the work in Panama and Alabama. Gorgas Memorial days are being conducted in the Southern States.

COLORADO

Hospital News.—The contract has been let for the new building for Fort Collins Hospital.——A new $250,000 unit will be added to the Methodist Sanatorium at Colorado Springs.

CONNECTICUT

Hospital News.—The nurses' home of the New Haven Hospital will be razed and a private ward building will be erected on the site at a cost of $400,000. It will be a four-story structure and fitted with all modern equipment.

DISTRICT OF COLUMBIA

Hay-Fever Control.—The Women's Welfare Association, Washington, has opened a hay-fever prevention clinic for the purpose of helping the working woman who cannot afford to be practically incapacitated for work during a month or six weeks during the year. Physicians will immunize patients with pollen weed serum treatments, and it is stated by the clinic physician that, according to the experience of men working in this field, from 25 to 30 per cent. of the patients given preventive treatment are cured.

FLORIDA

Hospital News.—The new nurses' home for the Norton F. Plant Hospital, Clearwater, will be opened early this month.——The contract has been let for the new children's home at Tampa, which will be erected at a cost of $110,000.——The New Home Sanatorium recently held a formal opening of its new addition at Jacksonville.

Board of Health News.—The state board of health recently consolidated the Bureau of Venereal Disease with several activities, heretofore carried on by other bureaus, into the Bureau of Communicable Disease, with Dr. George A. Dame, who previously served in that capacity with the Bureau of Venereal Disease, as director. The divisions of the new bureau are: field service, consisting of the district health officers; venereal disease control; county health work, and epidemiology.——The state board of health, in conjunction with the International Health Board, recently conducted a hookworm survey in parts of the state and the data collected will be given to the Bureau of Child Welfare of the state board of health for an active campaign of education and treatment.——Dr. Fritz A. Brink, district health officer of West Florida, recently conducted an antityphoid fever campaign throughout Escambia County. Nearly 5,000 inoculations were made in three weeks.

GEORGIA

State Medical Meeting.—The annual meeting of the Medical Association of Georgia will be a "Home Coming Meeting," and will be held at Columbus, May 3-5, under the presidency of Dr. E. C. Thrash, Atlanta. All former Georgia physicians now practicing in other states are invited. A banquet will be given in honor of the former presidents of the association.

ILLINOIS

Personal.—Dr. George T. Palmer, president of the Illinois State Tuberculosis Association, gave an address at a special meeting of the Peoria Medical Society, March 29.——Dr. Manly H. Shipley has resigned as medical director of the Rockford Municipal Sanatorium.——Dr. Walter C. Bley has been appointed local surgeon of the Baltimore and Ohio Railroad at Beardstown, to take the place of his father, Dr. George Bley, deceased.

Epidemic of German Measles.—It is reported by the state health department that epidemics of German measles have recently appeared in rather serious proportions at a number of points in the state. Since January 1, there have been 661 cases reported from Oak Park, 156 from Cicero, ninety from Wilmette and twenty-five from Princeton. The outbreak has recently started in Princeton, eighteen of the twenty-five cases having been reported in a single day.

Hospital News.—Excavation has been started for the new nurses' cottage for the Soldiers' Home, Danville, to be erected at a cost of $37,000.——A new hospital will be erected at La Harpe at a cost of $100,000.——Bids have been asked for the construction of the new hospital building to be erected by the Christian County Tuberculosis Board at Taylorsville. The building will cost approximately $100,000.——Contracts have been let for a new hospital building connected with the Victory Memorial Hospital, Waukegan. It is estimated that $30,000 will be spent on equipment.——The contract has been let for the Ravenswood Hospital, to be erected at a cost of $300,000.

Indictments in License Scandal.—It is reported that the Cook County grand jury has voted a true bill naming William H. H. Miller, director of the Illinois Department of Registration and Education, K. A. Fries and Dr. N. Odeon Bourque on the charge of trafficking in state licenses. Fries is said to be Miller's son-in-law, and was appointed by Miller to a position in the department where he has sole charge of the educational qualifications of applicants and is in entire control of the machinery of the examinations. Dr. Bourque, who is prominently connected with the Chicago Medical School, is reported to have conducted an alleged review course in the "preparation" of candidates for state licensure examinations and to have "guaranteed" delivery of the licenses. A fourth defendant named was William S. Broniarczyk, who, it is reported, was given a pharmacist's license even though he failed in his examination.

Flood Conditions Serious.—It is reported from the state department of health that flood conditions have given rise to more or less serious sanitary problems at various points along the larger streams in Illinois. More than 100 families have already been made homeless at Beardstown, while more widespread inundations are feared. A sanitary engineer and a district health superintendent from the state department of public health have been stationed at Beardstown for service there, while a larger personnel is held in readiness for similar assignments should conditions grow more serious. The director of public health has notified officials in all cities along the Illinois River of flood dangers and has requested immediate telegraphic reports of any flooded conditions that may occur. A general warning to the public recommending that all drinking water obtained from sources subjected to pollution from flood waters be boiled has also been sent out.

Public Health Demonstrations.—Arrangements have been made by the state department of public health for carrying out a complete series of public health demonstrations in southern

Illinois. Carbondale, Harrisburg, Benton, Marion and Centralia are the places that will be visited. The program embraces trachoma, tuberculosis and orthopedic demonstration clinics, as well as demonstrations in medical inspection of schoolchildren and better baby conferences. The public health exhibit equipment from the department of public health will be on display. A number of lectures will be delivered by the physicians and others in charge of the program, illustrated with motion pictures and lantern slides. The program will be conducted under the auspices of the state department of public health, with the cooperation of the state deparment of public welfare, the Illinois Tuberculosis Association, local medical societies and other local agencies.

Chicago

Hospital News.—Plans have been drawn for a new hospital building to be erected by the South End Hospital Association.——Bids will close April 18, for the construction of a $100,000 addition to the Illinois Central Hospital.

Association for the Relief and Prevention of Heart Disease.—At a meeting held April 7, a Chicago Association for the Relief and Prevention of Heart Disease was formed to undertake the type of work carried on by similar organizations in New York and Philadelphia. The following officers were elected: president, Dr. James B. Herrick; vice president, Dr. R. D. Preble; secretary, Dr. Sidney Strauss, and treasurer, Mr. Frank O. Hibbard.

INDIANA

Hospital News.—The Methodist Hospital Association of Indiana will take over the Epworth Hospital, South Bend, in addition to the four institutions already included in the association.——A new pathologic laboratory has been opened at St. Anthony's Hospital, Terre Haute.——Plans have been completed for a $400,000 sanatorium and power plant, and have been presented to the county commissioners, Crown Point.

IOWA

Prison Sentence Remitted.—It is officially announced that Dr. Walter A. Matthey, Davenport, who was sentenced to one year in Leavenworth penitentiary, and to pay a fine of $1,000 for alleged violation of the espionage act, has had his sentence remitted by the President but will be required to pay his fine.

MAINE

Personal.—Dr. Charles W. Bell, Strong, has been appointed by the governor as medical examiner for Franklin County.

Hospital News.—A new cottage, to accommodate thirty-four patients, is under construction at the Northern Maine Sanatorium, Presque Isle, and will be opened about July 1. It is expected also to install roentgen ray and have a training school for nurses.

MARYLAND

Hospital News.—Work has been begun on the $600,000 clinic building of Johns Hopkins Hospital.——Work will soon be started on the McCready Memorial Hospital Building, Crisfield.——A hospital for contagious diseases will be erected at once near Lake Montebello.

Personal.—Dr. Lyman S. Abbott has been appointed a health officer at Baltimore City, and assigned to tuberculosis dispensary work.——Major Milton H. Foster, who has been in command of U. S. Veterans' Bureau Hospital No. 45 at Biltmore, N. C., has taken charge of U. S. Veterans' Bureau Hospital No. 56, Fort McHenry, Baltimore, succeeding Major Frank Gordon, transferred.

MASSACHUSETTS

Vaccination Bill Killed.—The bill extending the compulsory vaccination law to private schools was defeated in the House by a large majority recently.

Physician's License Stolen.—A letter from the Massachusetts State Board of Registration in Medicine says that Dr. John A. Sullivan, Pittsfield, reports that his license was stolen from his office, April 1, 1922.

Fine for Selling Hypodermic Needles.—It is reported that Chester Field, clerk in a surgical instrument store in Boston, was fined $2,000 in the criminal court as a penalty for selling twelve hypodermic needles to a police officer, to which charge he pleaded guilty. Dr. Goldthwaite, aged 71, owner of the store, recently pleaded guilty to giving a hypodermic needle to a police officer and was fined a similar sum. Both men promised to get out of the surgical instrument business.

Hospital News.—The contract has been awarded for an addition to the Holden Hospital, Holden, to be erected at a cost of $35,000.——The nurses' home of the new $1,000,000 Essex County Tuberculosis Hospital, Middleton, was destroyed by fire recently at an estimated damage of $20,000.——The new private ward of forty-five rooms with baths, has been opened at the Children's Hospital, Boston. Certain suites are arranged so that mothers may live with their children.

Thorndike Memorial.—The anniversary of breaking ground for the Boston City Hospital, in 1861, will be commemorated in September by the completion of the Thorndike Memorial Laboratory, now being erected in the grounds of the hospital. This institution will be five stories high, will contain laboratories for research work and wards for the reception of patients whose cases, in view of their exceptional professional interest, will be the object of study and investigation. Dr. Francis Weld Peabody, professor of medicine, Medical School of Harvard University, will be director of the laboratory.

Personal.—Dr. Francis X. Mahoney, commissioner of health for Boston has been elected a trustee of the Baby Hygiene Association.——For the first time in Boston a physician will have charge of the penal and charity institutions of the city, which have been consolidated into one department. Dr. David J. Johnson has been appointed by the mayor as institutions commissioner.——Dr. Daniel J. Boland, Worcester, was recently the victim of a woman who forged his name for drug prescriptions, and stole the blanks from his office.——Dr. Frank A. Gardner, Salem, has been elected president of the Old Planters' Society.——Dr. Charles Eliot, president emeritus of Harvard University, spoke on "Prevention of Disease Through Animal Experimentation," at a public health conference in Boston, March 29, under the auspices of the Massachusetts State Federation of Women's Clubs.

MICHIGAN

Illegal Practitioner Convicted.—It is reported that Mrs. Augusta Kersten, Detroit, was convicted recently of practicing medicine without a license. Mrs. Mary Smock, a nurse from the department of health, was the chief witness for the state.

Personal.—Dr. Haven Emerson, New York City, gave an address on "The Value of Periodic Medical Examinations," under the auspices of the Kent County Medical Society, March 8, before a lay audience.——Dr. James E. Davis, professor of pathology, Detroit College of Medicine, has been appointed acting secretary of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons.——Dr. Harry L. Clark, professor of bacteriology, Detroit College of Medicine, gave a public lecture on "Germs, Good and Bad, in Our Everyday Life," illustrated with lantern slides.——Dr. Heinrich A. Reye has been appointed neurologist to the Detroit Receiving Hospital.——Dr. Charles F. Smith has been appointed city health officer of Muskegon to succeed Dr. Cornelius J. Addison, who resigned recently.

Public Health in Detroit.—Detroit, in 1921, had the lowest death rate, the lowest infant mortality rate, and the lowest tuberculosis rate in the city's history. This record together with all other activities of the health department cost $1.62 per capita, of which 73 cents went to the Herman Kiefer Hospital alone. The principal causes of death during the year were: first, congenital debility, malformation and premature birth; second, organic heart disease; third, pneumonia; fourth, tuberculosis. It is interesting to note that the death rate from tuberculosis was 94 per hundred thousand in 1921, and 208 per hundred thousand in 1883. Venereal disease exceeded all other communicable diseases reported and amounted to 26.3 per cent. of the total reported cases; diphtheria was second in this group amounting to 15.6 per cent. of the total. Deaths charged to automobile accidents numbered 134 as compared with 173 in 1920. The population was 942,000, and the death rate 11.0 in 1921. These and other facts are expressed in a short story, "Detroit's Government," published by the mayor and common council in February, 1922.

MINNESOTA

Physician Appointed Mayor.—Dr. Henry B. Grimes, secretary of the Watonwan County Medical Society, has been elected mayor of Madelia.

Mayo Foundation News.—Dr. Charles H. Mayo, Mayo Clinic, Rochester, delivered the Joyce lecture in neurologic surgery before the Academy of Medicine of Portland, Ore., and the Jerome Cochran lecture before the Medical Association of the State of Alabama, at Birmingham, recently.——Dr. Henry H. Hazen, Washington, D. C., professor of dermatology at the George Washington and Georgetown universities, recently gave a lecture on "The Roentgen-Ray Treatment of Superficial Cancer" before the staff of the Mayo Clinic.

MISSOURI

School Fees Increased.—It has been announced that the fee for students at the Washington University Medical School, St. Louis, beginning with the new school year, will be increased from $200 to $300 per year. This applies only to new students.

Fenger Memorial Fund.—A grant of $400 has been allotted to Dr. Major G. Seelig, St. Louis, for extension of his work on some uses of magnesium in surgery. This work is being conducted in the surgical laboratories of the Washington University School of Medicine, St. Louis.

Hospital News.—A new sanatorium building will be erected near a newly discovered mineral spring, Springfield, at an estimated cost of $100,000.——Ground has been broken for the new $1,000,000 hospital, St. Louis, which the Sisters of St. Mary will erect. The institution will be seven stories high and will accommodate 200 patients.

NEBRASKA

Hospital News.—The Falls City Hospital, a plant which cost $125,000, has been closed for want of financial and professional support.—A new state institution will be erected at Burkett at a cost of $125,000.——A new hospital will be built at McCook.——The Platte Valley Hospital, North Platte, has been transferred to the Methodist Hospital Board.——A community hospital has been opened in Nebraska City.

Society News.—The annual meeting of the Nebraska State Medical Association will be held at Omaha, April 24-27, under the presidency of Dr. Miles S. Moore, Gothenburg. The program will include addresses by Dr. John B. Deaver, Philadelphia, and Dr. George Dock, St. Louis.——At a meeting of the Adams County Medical Society held at Hastings, recently, Dr. Roy D. Martin was elected president and Dr. William T. Carson, secretary-treasurer.

Personal.—Dr. Harold Gifford, Omaha, has returned from a trip to British Guiana.——Dr. Joseph P. Weyrens, Alliance, has been appointed local surgeon for the Burlington Railroad.——Dr. William H. Byerly, Franklin, who had a stroke last fall, has returned from Missouri, but is not yet able to resume practice.—Dr. Albert P. Fitzsimmons, formerly of Tecumseh, treasurer of the Philippine Islands and ex-officio director of the mint, Manila, has resigned and will return to Nebraska, by way of India, Palestine, Egypt, Italy, France and England.

NEW HAMPSHIRE

Personal.—Dr. Lester R. Brown has been appointed city physician of Laconia.——Dr. Howard T. Child has resigned as clinical director of the New Hampshire Hospital for the Insane, Concord.——Dr. Charles P. Bancroft and Dr. Harold J. Conner have been elected president and secretary, respectively, of the newly reorganized staff of the Margaret Pillsbury Hospital, Concord.

NEW JERSEY

Legislative News.—An amendment to the Workmen's Compensation Act was signed by Governor Edwards, March 15, providing increased medical treatment for persons injured in following their occupations. No special time is placed on the treatment of an injured working person, but under the old law only four weeks' treatment was allowed. Also provisions have been made for the compensation of physicians and hospitals in treating such cases.

NEW YORK

Physician Wins Suit.—It is reported that Dr. Walter G. Frey, Astoria, was awarded $2,500 from the Lutheran Cemetery Corporation, March 29. The suit was the result of an excavation made in the cemetery which exposed the body of one of Dr. Frey's parents.

New Facilities at Saratoga Springs.—Through the efforts of the Saratoga County Medical Society, the capacity of the Saratoga Springs bath houses has been enlarged and they have been thoroughly remodeled. The new baths were opened April 15, and have been equipped for giving hydrotherapeutic treatments.

Physicians' Licenses Revoked.—An official report from the board of medical examiners of the state of New York states that the board of regents recently revoked the license of Dr. Daniel J. Hoyt, New York City, following his conviction on the charge of violating the Harrison Narcotic Law.——The license of Dr. Julius Hammer, New York City, was revoked, it is reported, as a result of conviction of manslaughter.

Public Health Literature.—The February issue of *Health News* reports that, during the year 1921, the New York State Department of Health distributed approximately 450,000 pieces of printed matter, of which 275,000 were monthly bulletins; 27,000 health circulars and pamphlets; 36,000 baby books sent to young mothers, and twenty-three pamphlets giving suggestions to prospective mothers. A bibliography for health officers was prepared and given out to the health officers attending the annual conference.

Public Addresses to Aid Mental Health.—The mental hygiene committee of the State Charities Aid Association has obtained the voluntary services of thirty-one noted psychiatrists and other authorities on mental hygiene to deliver popular lectures throughout the state on this subject. These lectures are designed to emphasize the fact that mental health is within the reach of many people who are at present afflicted with mental disease. Speakers will be made available on application to Stanley P. Davies, secretary of the committee, 105 East Twenty-Second Street, New York.

Hospital News.—A new maternity ward, donated by Mrs. Thompson, will be erected at the Frederick Thompson Memorial Hospital at Canandaigua.——The contract has been let for a four-story building for Jamaica Hospital, Jamaica. Construction will begin this summer.——A new building will be erected as an addition to the Peekskill Hospital at a cost of $75,000.——The commissioner of public welfare has been authorized by the board of aldermen of New York City to make the improvements necessary at the Sea View Hospital, Staten Island, in order to accommodate tuberculous patients from the Fox Hills Hospital, recently abandoned by the government. The U. S. Public Health Service has agreed to pay the city $3 per day for each patient.

Menace Seen in Defectives Bill.—The Knight bill, to amend the mental deficiency law, now before the governor, has been condemned in a statement issued by Commissioner of Public Welfare Bird S. Coler, on the ground that it would overcrowd existing institutions in New York City, and cause a great increase in local taxation. The law permits any one to lay information before a magistrate, and to issue a warrant or summons for the arrest of a person, and if the magistrate believes the person is mentally defective he shall commit such a person for a mental examination. Mr. Coler's statement asserts that New York City, which has most of the state's 40,000 mental defectives, would be most affected. During 1921, it was said there were 269 commitments of defectives ordered which were not executed because of lack of room. With the signing of the Knight bill, 40,000 cases would be thrown on the hands of the state, swamping the state institutions, which have a capacity of 4,000.

New York City

Personal.—Dr. Louis M. Alofsin and Dr. Richard E. Gordon were elected president and secretary, respectively, of the Society of the Alumni of the French Hospital, at the reorganization meeting held recently.

Banquet for Woman Physician.—The dinner in recognition of her twenty-five years' public health service which was to be given Dr. Josephine Baker, April 20, at the Hotel Commodore, has been postponed until April 25. Dr. Henry Dwight Chapin is chairman of the committee in charge.

Hospital News.—Ground was broken by Dr. W. Gilman Thompson for the new eleven story addition to the Reconstruction Hospital, April 2. The plans of the new building provide space for 175 beds, and the total cost of the new annex will be $1,500,000.——The new $3,000,000 buildings of Mount Sinai Hospital were dedicated, April 9, when Myron S. Falk, chairman of the building committee presented the buildings for acceptance to George Blumental, president of Mount Sinai.——The convalescent home for Hebrew children at Rockaway Park was dedicated, April 9. The old buildings of this institution have been remodeled and two new wings added. The home is now open all the year for the care of

convalescent and crippled children.—The First Institute of Podiatry has purchased a site at East One Hundred and Twenty-Fourth Street, where it will erect a clinic for the treatment of foot afflictions and conduct a school for the training of students in scientific podiatry.——The board of directors of the Bushwick Hospital, Brooklyn, contemplates the erection of a new wing to the hospital building at Putnam and Howard avenues.——Plans are being drawn for an addition, costing $90,000, to the Union Hospital.

OHIO

Hospital News.—The first step toward the construction of a new modern government hospital to replace the old U. S. Marine Hospital on Lakeside Avenue, Cleveland, has been taken.——The new Columbus Cancer Hospital will be erected in Columbus. The site has been leased for ninety-nine years by Dr. Charles F. Bowen.

Personal.—Dr. Oscar M. Craven, medical director of the Cincinnati Health Department, has been appointed health commissioner of Springfield.——Dr. Philip A. Jacobs, Cleveland, is in the hospital, suffering from an injured spine, incurred when he fell from his automobile.——Dr. John Osborn Polak, professor of obstetrics and gynecology, Long Island College Hospital, Brooklyn, spoke before the Columbus Academy of Medicine, March 16, on "Pelvic Inflammation and Social Diseases."

OREGON

Personal.—Dr. J. J. Lyon, Lakeview, is suffering from septicemia caused by being bitten while administering an anesthetic to a patient.——Dr. Augustus E. Tamiesie has resigned from the Eastern Oregon State Hospital, Pendleton, and will specialize in nervous and mental diseases in Portland.——Dr. P. I. Sharpe, Tillamook, suffered a broken leg and injuries to the head in an automobile accident, recently.

PENNSYLVANIA

Lectures on Medical History.—The College of Physicians of Pittsburgh has announced the institution of a series of lectures, one to be given each year, on the history of medicine. These lectures will be designated the "Bedford Lectures," in commemoration of Dr. Nathaniel Bedford, who was the first practicing physician of Pittsburgh. The first lecture of the series will be given by Dr. Clement R. Jones, April 27, 1922. It will have to do with the history of medicine in Pittsburgh.

Philadelphia

Philadelphia Health Day.—As a result of a conference between the officers of the Philadelphia Forum and a committee of the Philadelphia Health Day Organization, Dr. John B. Deaver gave an address at the Academy of Music April 13.

Personal.—Dr. Ernest LaPlace, chief surgeon of the Misericordia Hospital and first American pupil of Dr. Louis Pasteur, spoke, April 7, at a discussion of Pasteur's discoveries in bacteriologic and pathologic science, in the auditorium of St. Joseph's College.——Dr. G. Canby Robinson, Baltimore, delivered the eighth Mary Scott Newbold lecture, April 5, at the College of Physicians, his subject being "The Therapeutic Use of Digitalis and Its Relation to Experimental Pharmacology."——Dr. David R. Riesman read a memoir of the late Dr. M. Howard Fussell at the College of Physicians, April 5.

Dinner in Honor of Dr. de Schweinitz.—A testimonial dinner in honor of Dr. George E. de Schweinitz, President-Elect of the American Medical Association, was held in Philadelphia, April 4, under the auspices of the Philadelphia County Medical Society. Dr. Hobart A. Hare was toastmaster. While all of the addresses were eulogistic of Dr. de Schweinitz, each speaker touched also on some problem of medical education. Dr. Hubert Work, President of the Association, congratulated the Association on the choice of Dr. de Schweinitz as his successor, not only for his genius as an ophthalmologist, but as a national recognition of the advancement of Philadelphia in American medicine. Dr. William C. Braisted, president of the Philadelphia College of Pharmacy, outlined the plans for the establishment of a national institute of therapeutics. Dr. Ross V. Patterson, dean of the Jefferson Medical College, considered the problems of medical education in Philadelphia and the possibilities of enlarging the scope of medical schools. Dr. John G. Clark, professor of gynecology in the Medical School of the University of Pennsylvania, made a plea for the expansion of the medical art, placing humanity before science. Because of illness Dr. Frank Hartman, president of the Medical Society of Pennsylvania, was unable to be present and Dr. Edward Martin, state commissioner of health, made an address for the physicians of the state. Dr. de Schweinitz in his response discussed some problems of medical education and made a plea for the advancement of a great postgraduate center in Philadelphia. He also emphasized the importance of recognition: that the medical profession be looked on by the public, "not as breadwinners eager for the dollar, but as men molding our lives to the saving of others." The banquet was held in the Bellevue-Stratford Hotel and more than 500 physicians who attended rendered enthusiastic tribute to Dr. de Schweinitz as a worthy leader in American medicine.

RHODE ISLAND

New Appointments.—Dr. Charles A. McDonald has been appointed neurologist of the Rhode Island Hospital; Dr. Charles S. Turner, visiting physician, and Dr. Nathan A. Bolotow, otologic extern of the hospital.

SOUTH CAROLINA

Traveling Dental Clinic.—The legislative delegation of Greenville County has authorized the county commissioner of health to establish a traveling dental clinic for the schoolchildren in the rural districts, for three months, to educate the children in dental hygiene. This is the first clinic of its type in South Carolina.

TEXAS

Personal.—Dr. H. Earl Rogers has resigned as a member of the Dallas City Health Department and will practice in New York City.

Hospital News.—A memorial hospital, a tribute to the boys of Hays County who fought in the World War, will be erected in the vicinity at a cost of $50,000.——A charter has been granted to the Sealy and Smith Foundation of the John Sealy Hospital, Galveston, the purpose of which is the construction, enlarging, remodeling, and equipping of the hospital buildings connected with the John Sealy Hospital.——The Rolston Hospital, El Paso, will be purchased for $130,000 by the Masonic Hospital Association.——The Lee Surgical Hospital, San Antonio, has been reorganized and remodeled and will in future be known as the Jackson Hospital, in memory of the late Dr. T. T. Jackson.——The contract has been awarded for a $150,000 building for the West Texas Baptist Memorial Sanatorium, Abilene.

WASHINGTON

King County Medical Society.—Sir Auckland C. Geddes, ambassador to the United States for Great Britain, gave an address before the society at a luncheon given in his honor, March 31.

Graduate Medical Lectures.—Dr. Hobart A. Hare, Dr. John B. Deaver, and Dr. William McKim Marriott will be the regular lecturers in internal medicine, surgery and pediatrics, respectively, in the Graduate Medical Lectureship at the University of Washington, Seattle, this year. They will give five lectures each.

WISCONSIN

Ruling Against Chiropractors.—The assistant attorney general has advised the secretary of the board of medical examiners that chiropractors cannot add the abbreviation "Dr." or "D.C." to their names while practicing in Wisconsin, as it is unlawful and in violation of the statutes.

Hospital News.—The Tri-County Tuberculosis Sanatorium, Salmo, will be enlarged to double its present capacity.——The cornerstone of the new $150,000 government hospital at Soldiers' Home was laid recently——The capacity of the Milwaukee Sanatorium, Wauwatosa, will be enlarged from seventy to 100 beds during the summer.——A new building at Sheboygan will be opened this month for the housing of a group clinic of thirty physicians.

Milwaukee Academy of Medicine.—The first of a series of illustrated lectures on tuberculosis to be given before the academy by Dr. Oscar Lotz was delivered, March 28, on "History and Significance of Tuberculosis." On April 4, Dr. Lotz spoke on "Tuberculosis Infection." On April 11, the subject was "Pulmonary and Other Tuberculosis." April 18,

the subject will be "Treatment of Tuberculosis," and, April 25, "Prevention of Tuberculosis."

Personal.—Dr. Gerhard A. Bading, former health commissioner of Milwaukee, has been appointed by President Harding as minister to Ecuador, South America.——Dr. Edward L. Cornell, Chicago, delivered a lecture on "Cesarean Section" at the Hanover Hospital, Milwaukee.——Dr. Oscar Lotz was elected president of the Wisconsin Alumni Society of the University of Pennsylvania recently, to succeed Dr. James G. Taylor.——Dr. John G. Meachem, Sr., has been made chief of staff of St. Luke's Hospital, Racine.——Dr. Frederick C. Rodda, association professor of pediatrics at the University of Minnesota, gave an address before the Milwaukee Academy of Medicine, March 28, on "Hemorrhagic Diseases of the New-Born."

PORTO RICO

Personal.—Dr. Pedro Gutierrez Igaravidez, San Juan, has been made president of the Insular Board of Health.——Dr. William F. Lippitt, San Juan, is executive health officer.——Dr. Francisco Matanzo, San Juan, has been elected to the board of medical examiners.——Dr. Esteban Garcia Cabrera is now president of the Northern District Medical Society of Porto Rico.——Dr. José Mendin Sabat has been made superintendent of the hospital, Arecibo.——Dr. Eugenio Font Suarez is now superintendent of the Hospital Municipal, Santurce, San Juan.——Dr. Garry R. Burke is resident physician of the Presbyterian Hospital, San Juan.

CANADA

Medical Mission.—A medical mission has been organized at St. John's Garrison Church, Toronto, and was dedicated, March 4, in commemoration of the men of the parish who served overseas during the World War. The mission comprises a fee clinic for men, women and children, and is nonsectarian. Dr. John T. Fotheringham will be clinician-in-chief.

Society News.—The annual convention of the Canadian Radiological Society will be held in Winnipeg in June, in conjunction with the annual meeting of the Dominion Medical Association.——At the annual meeting of the Lambton Medical Association, held recently, the following officers were elected: president, Dr. W. R. Hamilton, Petrolia; vice president, Dr. William Reid, Wyoming, and secretary, Dr. Charles H. Smith, Petrolia.

Dr. Barnardo's Homes Association.—A building has been purchased by the council of the association in Toronto, through the agency of Albert Carless, F.R.C.S., late senior surgeon, Kings College Hospital, London, England, who lost both his sons in the war, in memory of them, and who is now devoting his life to the Barnardo work as medical director. This building will be the dominion headquarters. Twenty-seven thousand children have been brought from Great Britain to Canada by the association.

Public Health Meetings.—A joint meeting of the Executive Council of the Canadian Association for the Prevention of Tuberculosis and the Tuberculosis Division of the Department of Soldiers' Civil Re-Establishment, was held at Ottawa, March 17. Dr. Beland, minister of health, and Dr. Donald Armstrong, Framingham, Mass., delivered speeches.——The annual meeting of the Ontario Health Officers' Association will be held in Toronto, May 29-30. Dr. M. J. Rosenau will give an address on "Food Poisoning," and a symposium on "Milk," its production, pasteurization and distribution will be one of the features of the meeting.——At the last meeting of the Provincial Board of Health of Ontario, Dr. Adam Wright, chairman, was presented with a framed portrait of himself by Dr. Casgrain, which will be placed on the wall in the board room.

Personal.—Dr. Benjamin P. Watson, professor of obstetrics and gynecology, University of Toronto, will resign, to accept the chair of obstetrics and gynecology at the University of Edinburgh, Scotland.——Dr. John G. Fitzgerald, professor of hygiene, University of Toronto, and director of the Connaught Laboratories since 1913, has accepted an invitation from the University of California to take the chair of bacteriology and experimental pathology in that institution for one session.——Dr. William H. Pepler has been appointed representative of Trinity University, Toronto, in the Ontario Medical Council.——Robert D. Defries has been appointed director of the Connaught Laboratories, Toronto.——Dr. Margaret Patterson, Toronto's first woman magistrate, officially took her seat on the bench beside Magistrate Cohen in the woman's police court, March 6.——Dr. H. Ray Bulmer, Toronto, has been appointed medical officer for the London and Pacific Petroleum Company, Mêgritos, Peru.

GENERAL

American Society for Clinical Investigation.—The fourteenth annual meeting of the society will be held in Washington, D. C., May 1, under the presidency of Dr. Rollin T. Woodyatt, Chicago.

President Indorses National Hospital Day.—President Harding has endorsed the movement for the National Hospital Day to be held on May 12. In a letter to Matthew O. Foley, executive secretary of the National Hospital Day Committee, Chicago, Ill., the President says:

> I was pleased to learn from your letter that you are going to celebrate National Hospital Day again this year, on May twelfth, the anniversary of the birthday of Florence Nightingale.
>
> I feel that it is particularly worth while to continue this observance at present, because of some things which have lately come to my attention with regard to hospitals and hospital service, both in this country and abroad. America has led the world by a long way in the development and maintenance of modern hospitals, and in this regard our facilities are far superior to those of any other community. Yet, by reason of the extraordinary demands for care of the disabled men of the World War, we are a long way from adequate equipment. I have been told that in some of the European countries, where a very large hospital establishment was created to meet the requirements of the war, it has now proven almost impossible to secure the necessary endowment funds and community interest in these institutions, to keep them doing the great humane work which should be carried on by them, whether in war or in peace time. For myself, I have felt that in establishing the great hospital facilities which are needed for the soldiers, we will be providing ourselves with a facility whose usefulness will continue after the soldiers have been properly cared for and discharged. When that time comes I trust ways will be found to have these establishments utilized for the general interest of the community, through local associations similar to those that maintain so large a proportion of hospitals all over the country.
>
> One of the finest and most humane products of our civilization is the modern hospital, and every activity which aims to assure its advantages to an increasing number of people deserves all possible encouragement.
>
> WARREN G. HARDING.

LATIN AMERICA

Domínguez Decorated by France.—The *Revista de Medicina y Cirugía* of Havana relates that Dr. Francisco Domínguez of the editorial staff of the *Revista* has been appointed a commander of the Legion of Honor by the government of France.

Election of Officers.—The Academia de Medicina of Cartagena, Colombia, recently elected its officers for the year as follows: Dr. T. A. Tatis, president; Dr. Macario Paz, vice president; Dr. J. Caballero, secretary, and Dr. Ramón Pareja, treasurer.

Mexican Editor in the United States.—Dr. A. Brioso Vasconcelos, editor of the *Gaceta Médica de México*, treasurer of the Mexican Medical Association, vice president of the Mexican Yellow Fever Commission and one of the most prominent syphilologists in Mexico, is now in this country.

Hospital News.—A modern three story building is practically completed in Cartagena and will be leased as a hospital by an organization made up of Americans and Colombians. The building has a capacity of forty beds, and the staff will consist of four Colombian physicians, practically all of whom have had graduate work in American medical schools, and an American surgeon with four American graduate nurses. It is planned to have student nurses also. The staff is now in Cartagena ready to open the hospital on its completion.

Personal.—Dr. Luis Montané, professor emeritus of anthropology at the University of Havana, has been elected president of the French Société d'Anthropologie at Paris, where he is now residing. His address on assuming the presidency is reproduced in the *Revista de Medicina y Cirugía* of Havana **27**:239, 1922.——The *Brazil-Medico* reports that a group of leading physicians of Rio de Janeiro recently tendered a banquet to Dr. R. Pearce and Dr. F. Russell, both of the Rockefeller Foundation, and Dr. Carrigan, who were visiting in Rio at the time. Dr. Miguel Couto, president of the National Academy of Medicine, presided at the banquet, and addresses were made in English by Dr. C. Chagas, chief of the public health service, by the American ambassador and others.

Transactions of the Cuban Medical Congress.—The January issue of the *Crónica Médico-Quirurgica* of Havana is a stately volume of 343 pages, in white and gold cover, devoted to the recent Fifth National Medical Congress. It is profusely illustrated and records the impressions of the congress from

an unusual number of points of view. It relates that the committee on social affairs offered a prize for the best collection of medical anecdotes, and the prize was awarded to Dr. J. A. López del Valle for his collection of sixty-six. A number of Havana medical institutions are also described and illustrated. An important study of legislation on infanticide in the different states of Latin-America, by Prof. L. Avendaño of Lima, was followed by adoption of a resolution on the subject. The Sixth Latin-American Medical Congress has been appointed to convene at Havana in November of this year.

The Sixth Latin American Medical Congress.—The Cuban congress has just granted an appropriation of $35,000 for celebration of the Sixth Latin-American Medical Congress, which will be held in Havana, November, 1922. According to information received from the secretary, Dr. Francisco M. Fernández, committees have already been organized in all Latin-American countries. There will be fourteen sections: biology, anatomy and pathology; bacteriology and parasitology; public health and demography; general medicine; tropical medicine; pediatrics; surgery; pharmacy and therapeutics; mental and nervous diseases, and legal medicine; ophthalmology and otorhinolaryngology; radiology and radiumtherapy; odontology; veterinary medicine, and history of American medicine. The attendance fee is 10 pesos and the official language is Spanish. In connection with the congress there will be held a National Exhibition of Public Health which will remain open ten days or more. The previous Latin-American Medical Congress was held at Lima, Peru, in November, 1913. All correspondence relative to the congress should be addressed to Dr. F. M. Fernández, Prado 105, Havana, and all correspondence relative to the exhibition, to Dr. Antonio F. Barreras, San Lazaro 241, Havana, Cuba.

FOREIGN

New Indian Magazine.—The first and second issues have recently appeared of the *Madras Medical College Magazine.*

International Psychanalysis Congress.—The *Informateur* gives the address of the secretary of the committee of organization as Mr. J. C. Flügel, 11 Albert Road, London N. W. 1. The congress is to meet at Berlin, Sept. 22-25, 1922.

Scotch Medical Students at Paris.—A party of 100 medical students from Edinburgh arrived in Paris, March 19, and was received by Professor Brindeau and others, and given every opportunity to inspect the medical institutions of Paris.

Honor for Physician.—The gold medal of the British Medical Association has been awarded to Sir T. Clifford Allbutt, regius professor of physic in the University of Cambridge, England, for his distinguished services to the profession and the association, and in commemoration of his five years' presidency of the association during the World War.

Mount Everest Expedition.—Dr. A. M. Wakefield, Megantic, Quebec, Mr. T. Howard Somervell and Mr. T. G. Longstaff, both of London, England, are the three surgeons who will accompany the 1922 expedition to India in an effort to reach the peak of Mount Everest, alleged to be the highest point in the world, extending almost 30,000 feet above sea level.

Smallpox and Typhus in Germany.—The *Klinische Wochenschrift* records that there were only 685 cases of smallpox in Germany during 1921, to 2,095 in 1920. The proportion is about the same for typhus: 533 in 1921 and 1,103 the preceding year. There were only twenty-five cases of typhus among the settled population; the others were all imported cases.

Army Surgeon Banqueted.—The Madrid monthly, *Esculapio,* relates that a banquet was recently tendered Dr. Pagés on his return from the campaign in Mococco. Many of the guests were officials and soldiers on whom he had operated, including a lieutenant colonel who had been shot in the lung. Pagés is chief of the provincial hospital in the Melilla district.

Vacation Camps in France.—The *Presse Médicale* states that the president of the Touring Club of France has been elected president of the newly organized association to promote vacation camps and physical and moral training. The minister of war and the minister of hygiene sponsor the new association, and Commander Fabre has been appointed director of the vacation camps.

Congress for Professional Orientation.—It is announced that the persons interested in systamatization of ways and means to aid the young in deciding their choice of a trade, profession, etc., are to hold an international conference at Milan later in the year. Professor Ferran, Via Osservanza 34, Bologna, Italy, is the president of the committee of organization, and Dr. Mira, 5 rue Saint-Honorat, Barcelona, Spain, is the secretary.

Radiotherapy in Malaria.—The *Annali d'Igiene* mentions that seven leading physicians have been appointed by the Italian minister of the interior to form a commission for systematic study of the feasibility and efficacy of radiotherapy of malaria, alone or in conjunction with other therapeutic and prophylactic measures. Grassi is chairman of the commission, and Ascoli, Bignami, Gosio, Busi and Labranca are among the members.

Prize to Morgenroth.—At the recent meeting of the German Microbiologic Society, the annual prize from the Aronsohn Foundation, amounting to 25,000 marks, was awarded to Dr. J. Morgenroth, professor of bacteriology at the University of Berlin and chief of a department in the Koch Institute. The prize was given for his important contributions to bacteriology; in his address on receiving the prize he spoke mainly of his newer research on immunity and chemotherapy of streptococcus affections.

Resumption of Antialcohol Review.—The *International Review Against Alcohol* has resumed publication after a suspension of two years. It is to be now the organ of the International Temperance Bureau, with the same editor, Dr. R. Hercod, Avenue Ed. Dapples, Lausanne, Switzerland. The first issue of the new series contains four leading articles, including "Heredity and Blastophthoria," by Forel; "The Physician and Alcohol," by Gaupp, and "the Social Protection of Youth and the Race," a study of the effects of prohibition in the United States, by Saleeby.

The Pasteur Celebration.—The whole scientific world is commemorating this year the centennial of the birth of Pasteur, but Strasbourg is taking the lead in the celebration as he was professor of chemistry at the university there from 1852 to 1854. He was born at Dôle in the Jura, the son of a tanner, Dec. 27, 1822. Strasbourg plans two celebrations, one on the exact date, and another with great ceremony, June 1, 1923, when an exhibition will be opened, planned to demonstrate the progress that has been realized in consequence of Pasteur's discoveries, and the Pasteur monument will be unveiled. Prof. Borrel, 3 rue Koeberlé, Strasbourg, is in charge of the exposition to open June 1, 1923.

Permanent Committee of International Congresses for Military Medicine and Pharmacy.—At the recent first meeting of this committee, at Brussels, Bainbridge represented the United States; Stirling, Great Britain; Uzac, France; Van Baumberghen, Spain; Mauri, Italy, and Wibin and Voncken, Belgium. The latter is secretary of the committee, and Wibin, inspector general of the Belgian army, presided. It was decided to hold the next congress at Rome in May, 1923, and evacuation of the sick and wounded; the corporation of civil and military authorities; disinfection and disinsectization in war and in peace, and war wounds of the chest and their sequels, were the subjects appointed for discussion.

New Russian Medical Journals.—The *Medizinsky Vestnik* is now in its second year. It is published at Smolensk by the military authorities, and the January issue contains four leading articles by Skolowsky, Spassky, Bobroff and Kaloujsky on wounds of the femoral artery and vein, eye injuries, capillaroscopy and fracture of the femur. It has an abstract department with summaries of articles in seven other Russian medical journals as well as the German. The *Medizinskaia Misl* is published at Rostof on the Don, at its mouth in the Sea of Azof. The four leading articles in the first issue of the first volume, January, 1922, are by the professors of the local university, the successor to the University of Warsaw. Kastanian writes on "Constitution and Diathesis," and Emdin on "Epidemic Encephalitis and Parkinsonian Rigidity of Muscles." There is an extensive abstract department. The paper in these two medical journals just received is of the cheapest kind, the spelling is changed, and many words are abbreviated. This with the small and poor type makes the reading difficult, but the character of the contributions is high. The price of this issue of the Rostof journal is said to be 20,000 rubles.

Deaths in Other Countries

Dr. **C. Wallis,** professor of pathologic anatomy at the University of Stockholm until retirement in 1910, at one time president of the Swedish Medical Association, aged 77.——Dr. **V. Heiberg,** formerly professor of gynecology and obstetrics at the University of Copenhagen, member of the British Gynecological Society, aged 69.——Dr. **I. Saavedra** of Boyaca, Colombia, honorary president of the Fourth National

Medical Congress of Colombia.——**Dr. J. J. Kyle,** professor of chemistry at Buenos Aires until his retirement, president of the Sociedad Cientifica Argentina and of other societies, aged 84.——Dr. **F. Klein,** professor of physiology at the University of Kiel, aged 70.——Dr. **O. Gerlipp** of Berlin, organizer of the medical department of the ministry of labor in Germany, aged 52.——Dr. **Lausiès,** for many years a member of the city council of Havre and initiator of various movements for social welfare.

Government Services

U. S. Veterans' Bureau

The bureau will establish a vocational school at Chick Springs, S. C., for men suffering from certain types of nervous and mental diseases. District No. 5 is endeavoring to have this training center ready for operation, May 1, with at least 200 men assigned there by that date. Ground has been broken for a new $40,000 shop building, which the owners have agreed to have ready, and a complete survey is being made to determine the special classes of trainees that will be assigned to Chick Springs. Only single men will be sent to this school and they will be required to live in a dormitory provided by the bureau.——Blind trainees who are taking courses in poultry raising will be supplied with incubators and brooder stoves, at a cost not exceeding $125 for each trainee. Those taking massage will be given a Boston bag, an electric vibrator, one dozen surgical gowns, the outfit to cost not more than $75. If cigar makers, $45 will be spent to furnish each blind trainee with a bunch machine, a three-mold press, a rolling board, booking block, cutter, two cigar knives, a tobacco sprinkler and a stamp canceler. The blind man preparing to be a storekeeper will be provided with a standard typewriter or a cash register. There will be released to trainees in the rehabilitation division, on completion of training, whatever part of the equipment is necessary in their chosen occupations——During March, 29,953 cases received attention from the medical division and 805,517 claims for compensation for death or disability were filed, 15,526 being new claims.——It is announced that, under the land office ruling, no money may be refunded to trainees who have made part payment on homesteaded land and then have been forced to give it up owing to physical disability.——Eight tons of drug dispensary equipment have been sent to Portland, Ore., for the bureau there.——It is announced that 85,000 feet of floor space in the Grand Central Palace, New York City, has been leased for the U. S. Veterans' Bureau to consolidate the rehabilitation and the claims department offices at Seventh Avenue and Forty-Third Street, respectively. The new office will occupy the entire eighth and tenth floors of the building.

Hospitalization Bill Before Senate

The disabled soldiers' hospitalization bill passed by the house appropriating $17,000,000 for increased hospital facilities has been reported favorably to the Senate by the Public Building Grounds Committee of that body. Senator Fernald, chairman of the committee, declared that no changes were made in the house measure and that he would seek early action in the Senate.

Hospital for Negro Veterans

Assistant Secretary of the Treasury Clifford has announced that bids will be received May 1, for the construction of the new hospital for disabled negro war veterans at Tuskegee, Ala. The hospital, which is to cost $2,250,000, will have a capacity of 500 beds, of which 230 will be reserved for tuberculous cases and 270 for shell-shock cases. Actual work on the new institution will be under way by the middle of May, according to Treasury officials.

Marine Hospital at Cleveland

Representative Norton of Ohio has presented a bill to Congress providing for the sale of the marine hospital reservation at Cleveland, and the use of the money for the purchase of an additional site for the erection of a new United States Marine hospital.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 20, 1922.

The British Medical Association and the Voluntary Hospitals

The voluntary hospitals are peculiar to this country and their organization reflects the individualism of its people. Founded and supported by voluntary subscriptions for the treatment of the poor, they have, without state support or guidance, grown into great institutions for medical research and teaching, staffed by the élite of the profession. But social as well as medical conditions have gradually changed and much altered conditions. The greatly increased cost of everything since the war, combined with the high taxes of those who support the hospitals, has rendered their maintenance on the old lines impossible; hence, a general tendency to ask patients to pay at least a part, however small, toward the maintenance of the hospitals. Then the difficult question has arisen as to who are entitled to benefit. Formerly, the answer would have been easy; the persons who benefited were the working class in receipt of small wages, who, even if they continued working during the illness, could little more than maintain their families. Now wages are higher and the greatly increased cost of living, combined with the increased expense of modern treatment, has driven to the hospitals a class who may be able to pay the ordinary physician, but not the surgeon or other specialist. The position of the honorary medical staff which formerly gave its services gratuitously has been under the consideration of the British Medical Association for some years and this consideration has now been brought to a head by an elaborate report of the council prepared for submission to the next representative meeting. The report aims at the consolidation of the known policy of the association; many of the details have been adopted at previous representative meetings, and it has been endorsed by a meeting of representatives of the medical staffs of the hospitals, which has been just held at the invitation of the association.

The association recognizes a dual policy as regards voluntary hospitals: (*a*) that the purely charitable side should be continued, whereby indigent patients are maintained by gratuitous contributions and treated gratuitously by the honorary medical staffs; (*b*) that patients who are not indigent may be received when adequate treatment cannot be obtained elsewhere, and that for them payment should be received by the hospital, either from the patients themselves or on their behalf by the authority or body referring them to the hospital, and that for their treatment some method of remuneration of the honorary medical staff should be arranged. In view of the tendency of the state to require the services of the voluntary hospitals, the association holds that it should pay the full cost, including remuneration of the medical staff. On the other hand, the association admits that the voluntary method of administration is to the advantage of the public, medical science and the medical profession, and should be maintained. It considers that gratuitous contributions by employers or employees should be regarded as the payment of premiums for sickness; not as entitling to hospital treatment, but as charitable contributions to be expended at the discretion of the hospital. The association classifies hospital patients in three groups: "free" (indigent), "tariff" and "private." The first comprises those certified by the almoner or other officer as unable to contribute; the second those paying or for whom is paid the

tariff cost of maintenance and treatment; and the third, those who pay for special accommodation and arrange for medical treatment independent of the hospital. The following scale is suggested, subject to economic and local variations:

Class 1. Limit of income, $1,250: (*a*) single persons over 16 years of age. (*b*) Widow or widower without children under 16 years.

Class 2. Limit of income, $1,500: (*a*) Married couples without children under 16 years of age. (*b*) Persons with one dependent under 16 years.

Class 3. Limit of income, $1,750: (*a*) Married couples with a child or children under 16 years. (*b*) Persons with more than one dependent under 16 years.

Persons with incomes above the specified scale may be received as private patients. The association holds that no tariff patient should be admitted without the recommendation of a private physician.

Augustus D. Waller, M.D., F.R.S.

Prof. A. D. Waller, director of the physiologic laboratory of the University of London, died recently from cerebral hemorrhage. The son of a famous physiologist, Augustus Volney Waller, whose name is perpetuated by his discovery of wallerian degeneration, he was born in 1856, at Paris, where his father was engaged in physiologic research. He was educated at the Collège de Genève and afterward at Aberdeen and Edinburgh. After graduation, he worked in the physiologic laboratory of University College, London, under Prof. Burdon Sanderson. He was appointed lecturer on physiology at the London School of Medicine for Women and afterward at St. Mary's Hospital. He gave up the latter post when the physiologic laboratory of the University of London was formed, mainly through his efforts. His most important researches were on the electric phenomena of the nervous system and heart. He was the pioneer of electrocardiology and first used the mirror galvanometer, then the capillary electrometer and finally the string galvanometer. He was the first to show that the electric current set up by the beating of the human heart can be recorded. His investigations of the electric currents in living tissues, especially in nerves and muscles but also in the skin and retina and in plants, are well known. The administration of chloroform and avoidance of deaths which occur under it engaged his attention. In his later years, he took up two subjects: the cost of muscular work as measured by the amount of carbon dioxid exhaled and the emotive response of man to pain and the threat of pain. In addition to various papers published in the *Transactions of the Royal Society* and the *Journal of Physiology*, he produced an "Introduction to Physiology," which reached a third edition, in 1896, and a book on animal electricity.

The Doctrine of Vitamins Attacked

The doctrine of vitamins has been attacked by two investigators, Captain Elliott and Dr. Orr, director of the Rowlett Institution. They have investigated the feeding of the larger domestic animals. They point out that stud books, milk records, and meat market statistics form an enormous mass of material for the student of dietetics which is checked by a system of postmortem examinations and serial sections, and that dietetic causes of disease may best be studied in animals. These investigators contend that the supporters of the vitamin theory do not lay enough stress on the need of all animals for mineral food, such as lime and phosphorus. The doctrine that rickets is due to deficiency of the vitamin fat-soluble A is controverted. They find that rickets can be produced in pigs by withholding certain salts, but the disease has no relation to fat-soluble A, as its absence does not produce rickets nor does its presence prevent the production of the disease. In sheep, a disease at least resembling rickets is known, but it occurs when food containing all the vitamins is supplied. As to man, it is pointed out that the shortage of butter and the wide use of margarin (which contains no vitamins) during the war was not followed by an increase in rickets.

Professional Secrecy

At the Medicolegal Society, Lord Dawson of Penn (formerly physician to the London Hospital) opened a discussion on professional secrecy, a subject which has been shown in previous letters to THE JOURNAL to be exciting a good deal of attention. He pleaded that the position of the physician was so unusual and the circumstances under which he gained his knowledge were so unique that protection in the interests of the public should be accorded to his evidence. This claim was not based on professional interests. It was not the privilege of the doctor but of the patient which was claimed. The public in the past had been under the conviction that what the physician was told was sacred, and, in a general way, that the obligation of secrecy would be respected in courts of law. They, therefore, received no small shock by the judges' rulings in recent cases. In one case, the ruling injured the whole fabric of venereal clinics. Unless those who attended had confidence that they could do so secretly, many would never attend at all. Privilege was already granted by statute to the lawyer and by practice to the priest, and was either permitted or ordained in foreign countries. Granted that medical privilege, even if properly limited, would occasionally result in failure to detect or punish the wrongdoer, it would be far better, in the public interest, that the ends of justice be defeated now and then than that the case of the sick should be prejudiced always. Lawyers were apt to think that the vindication of the law was the supreme interest of the state; whereas occasions occurred on which there were interests which overrode those of the law. He did not claim what was allowed to lawyers and to priests by practice—absolute privilege. Physicians did not forget their duties as citizens. What the measure of that privilege and its limitations should be could best be considered by a round table conference between physicians and lawyers, after the principle had first been conceded. Physicians appealed to the sister profession to consider the force of the plea and give it support.

Physician Convicted of Manslaughter in Consequence of Drunkenness

A physician has been convicted at the Durham assizes of the manslaughter of a miner's wife on whom he operated for eclampsia. The evidence showed that he visited the woman at 6:30 p. m., and her relatives refused to allow him to operate because they considered that he was under the influence of alcohol. About 10:30 he returned apparently better, and operated, administering chloroform with the assistance of his housekeeper. Those present believed that the patient was not completely under the influence of chloroform. After two hours he had not completed the operation (presumably forceps delivery, but its nature is not given in any of the reports). Another physician was then called. He made it a condition of attending that he should leave. He was of opinion that there was no necessity for the operation. The patient died two days later. At the trial, Dr. B. H. Spilsbury, the medical jurist, stated that it was unwise for the prisoner to operate single-handed. He could account for the injuries received by the deceased only as due to want of reasonable skill and care owing to intoxication. The judge passed a sentence of twelve months' imprisonment, intimating that he took into account the professional consequences which must follow the conviction.

PARIS

(From Our Regular Correspondent)

March 17, 1922.

The Crisis in the Army Medical Service

During the discussion on the drafting of the law on the incorporation of the 1922 recruits, in the chamber of deputies and the senate, the minister of war admitted that there was a shortage of physicians in the army. The medical corps is passing through a serious crisis due to the state of depression of its members. One of the most important causes is the term of their assignments. After the war, army physicians were continually being transferred. They were sent to take charge of a service for a month, then were transferred to another service for two months, and it became impossible for them to establish a residence with their families. Sometimes also they were ordered far away from Europe and separated from their families for two years or more. A great number of resignations were sent in, which had the disastrous effect of thinning the ranks of the medical corps immediately after the end of the war. The other cause is due to recruiting. A great number of young men forsake the career of army physician. Thus, in 1919, for 200 vacancies at the medical service school of Lyons, about 150 pupils were enlisted; in 1920, of 200 vacancies, 130 were filled; in 1921, of 200 vacancies, only 100 were filled. There have been also resignations among the pupils enlisted at the school. It is easy to realize how serious this shortage is, which increases every year.

Fatal Poisoning with Methyl Salicylate

At a recent session of the Société médico-psychologique, Dr. Legrain and Mlle. Badonnel reported an interesting case of poisoning with methyl salicylate taken by a patient with the intention of suicide. A quarter of an hour after the ingestion of 60 gm. of the product, lavage of the stomach brought back almost all, if not all, of the drug. To insure more complete elimination, the patient was given an emetic. Toward noon (the ingestion of the drug having taken place at 10 a. m.) the patient presented no grave symptoms and did not complain. She had several vomiting spells, and the vomitus revealed by its odor the presence of methyl salicylate. She had two or three stools in the afternoon. At 8:30 p. m., after another stool, she became pale and suffered nausea. The nurse gave her some tilia (linden flowers). She vomited it with bile and mucus which had a strong odor of methyl salicylate. Her breath was also impregnated with it. Soon after vomiting, the patient had convulsions that the nurse described as strong epileptic seizures. For approximately ten minutes, she was under violent and generalized convulsions. From that moment, the woman remained in a semicoma attended by occasional jerks. The extremities were cyanosed and the body covered with perspiration. Toward 1 a. m., the cyanosis had increased, and the patient died at 3:15 a. m. without a new seizure. This case is particularly interesting, not only on account of its uncommonness, but also because it clarifies the physiology and toxicology of methyl salicylate.

More than thirty years ago, Laborde's experiments on the toxic action of aromatic beverages made from natural or artificial essences furnished the means of classifying methyl salicylate among the epileptogenic poisons. On the basis of these experiments, clinicians, among them Magnan, were able to explain the epileptiform disturbances presented by drinkers of appetizers, especially vermuth, manufactured and aromatized with methyl salicylate. The fact had been so often confirmed by clinical experiments that it could no longer be doubted. However, the experimental proof on man was missing, and the gap has been filled by the history of Legrain's case. The time that elapsed between the ingestion of the poison and the appearance of final disturbances is to be noted. During these ten hours, the patient did not present a single alarming symptom. It follows that absorption of methyl salicylate is extremely slow (sodium salicylate is absorbed and eliminated more rapidly). This suggests that the use of the proper chemical antidote could, perhaps, prevent fatal accidents. The toxicity of methyl salicylate seems to be very high, for in this case the evacuation of the poison by lavage and emesis had been prompt and energetic, and only a relatively small quantity of the poison had passed into the intestine. It is true that the intoxication in this case was favored by insufficiency of the liver and kidneys, as necropsy showed. However, the case shows that methyl salicylate, prescribed sometimes for internal use as pills or potion, is far from being harmless and must be watched carefully.

Delivery of Bacterial Cultures

In the present state of things, bacteriologic laboratories can deliver bacterial cultures to any one asking for them. Monsieur Géo-Gérald, a deputy, believes that these conditions constitute a real social danger. On the one hand, it gives to criminals the means of accomplishing their designs; and, on the other hand, the manipulation of cultures, being particularly dangerous, should be surrounded with indispensable precautions that everybody is not always able to take. Monsieur Géo-Gérald has introduced a law intended to restrict the handling of bacilli cultures to establishments especially selected for the purpose. The delivery of cultures shall be either subject to an authorization by the ministry of public instruction, which will make an inquiry before delivering the necessary permit, or on the production of a prescription bearing the signature of a duly certified physician. Any inobservance of the law pertaining to the delivery of cultures will be punishable by a fine of from 500 to 5,000 francs and imprisonment of from one month to three years.

In Commemoration of Bretonneau

The teachings given by Bretonneau at the Hospice général of Tours during the last century will be commemorated in that city, June 24-26. One hundred years ago this remarkable clinician, who had begun his researches in 1818 on dothienenteritis (a term that Trousseau changed later to dothienenteria) affirmed the principles of the doctrine of specificity and wrote his treatise, which was not published until 1826, by Trousseau. To celebrate this centennial, a scientific committee has been formed including, among others, Achard, Gilbert, Jeanselme, Menetrier and Widal. The president of the committee on organization of the celebration is Professor Thierry, director of the school of medicine of Tours. A collection of all the documents concerning Bretonneau, his time and his pupils, will be on exhibition during the celebration. To obtain a membership card, the fee of 20 francs should be sent to Dr. Dubreuil-Chambardel, at the School of Medicine of Tours (Indre-et-Loire).

French Congress of Dermatology and Syphilology

The Société française de dermatologie et de syphiligraphie has decided to organize periodic international meetings. The first congress of French-speaking dermatologists and syphilologists will be held, June 6-8, in Paris. Those who can register their names as members are: members of national societies of dermatology and syphilology, and physicians interested in dermatosyphilologic questions who shall be accepted by the committee on organization. The membership fee is 60 francs. The congress will be held in the Hôpital Saint-Louis. The morning sessions will be devoted to the presentation of patients and to special communications; the afternoon sessions to the discussion of reports on the following subjects: (1) epidermomycosis (except tinea), Dr. Petges

(of Bordeaux); (2) subacute inguinal lymphogranulomatosis of venereal origin (adenogenic venereal ulcer), Prof. J. Nicolas and Dr. Favre (of Lyons); (3) colloidal reactions in syphilis: reactions with colloidal gold, with gum mastic, and colloidal benzoin, Dr. Guy Laroche (of Paris). Membership fees should be sent before May 15, to Dr. Hudelo, 8 rue d'Alger, Paris.

Dangers for the Public in the Vulgarization of Medicine

Under the title, "Bibliothèque des connaissances médicales," the publishing house of Flammarion has launched the publication of a series of volumes on the "most interesting subjects in medicine." In announcing this work, Dr. Apert, director of the concern, states that these books will be edited in such a way that they will be not only interesting and useful to physicians and students, but also valuable to "the educated public having no special knowledge of medicine, but able, with a good general education, to understand special scientific subjects when they are clearly written." Dr. Apert says that, to accomplish this, medical language must be simplified. He does not conceal that the diffusion of a science in a concise manner when put in well intentioned but inexperienced hands might become dangerous, but he hopes to overcome this difficulty by better instructing the public. On examining the list of volumes that will make up the collection, one may doubt the usefulness of such an enterprise. While no exception might be taken to educating the general public with regard to such diseases as syphilis, one might hesitate to approve a program that includes such subjects as pericarditis, internal secretions, psychoneuroses, arterial hypertension, endocrine syndromes in children, and cardiac insufficiency. One might well ask whether persons "having no special knowledge of medicine" will be able to understand such subjects, and whether there is really any need of giving them information that may be misunderstood.

Furthermore, how can one book answer the same purpose for readers as widely different as physicians or medical students and the general public? One of the first volumes of this collection, entitled "Vaccines and Serums," was written by Dr. Apert himself, and is intended primarily for the physician. The *Journal des praticiens* comments: "Diffusion of such information should be restricted to the physician and the student, and it is regrettable that such books should reach the public. It does not understand, and this incomprehension complicates greatly the practice of medicine. . . . Dr. Apert's book will fill unprepared minds, in which everything will be mixed up in such a way that the supposed acquired knowledge will be veiled by undigested words and will fall in an avalanche of questions on the much surprised attending physician." Nearly a quarter of another volume, entitled "Diabetes Mellitus," by Dr. F. Rathery, is devoted to the pathologic physiology of diabetes, the notion of the "threshold of sugar," the origin of acidosis, etc. It is doubtful whether the public will be able to understand the gradual decomposition of diacetic acid, and its eventual transformation into beta-oxybutyric acid. At a recent session, the executive committee of the Syndicat des médecins du département de la Seine took up the question also concerning the popularization of medicine and, in particular, of therapeutics. Dr. Boyer called attention to the danger resulting from articles on therapeutics written by physicians in certain daily journals. Boyer believes that the popularization of practical and applied medicine is impossible and dangerous, especially when it deals in detail with the application of a therapeutic method, when mention is made of the superiority of a certain product or when the dosage of a medicament is given. The layman who has read such articles, proud of his inaccurate knowledge, will not fail to make and disseminate the grossest and most stupid errors. The executive committee of the syndicate approved Dr. Boyer's declaration and decided that the Commission d'étude de l'enseignement et du mouvement scientifique should follow carefully medical articles appearing in daily journals.

Information Concerning the War Wounded

The deputy Barthe has called the attention of the minister of war to the fact that certain army officers or heads of services, especially recruiting officers, have refused to furnish information concerning former wounded men to surgeons who operated on them, pretending that the rules do not allow the disclosure of such information to a third party. Barthe believes that such conditions are harmful, as operative results are of the utmost interest, and that the army should keep abreast of progress in surgery. The minister of war explained that the present rules do not allow information on medical certificates to be imparted by the health department to any interested party; but there is everything to gain in allowing the surgeon to obtain information concerning a patient on whom he has operated, and the heads of army corps and the recruiting officers should give to the surgeon, when they deem it advisable, the address of former patients whose recovery he is anxious to follow.

The Commemoration of Pasteur's Centennial

Having been invited to participate in the ceremony to be held in Strasbourg to commemorate the centennial of Pasteur's birth, the Academy of Medicine has decided to devote one of its sessions in honor of his work. As the Pasteur Institute intends to commemorate this anniversary on the exact date, Dec. 27, 1922, the Academy of Medicine has chosen December 26, the eve of the Pasteur Institute's celebration, in order that the same guests may participate in the two ceremonies. At the session will be presented data showing the progress accomplished since Pasteur's days in general biology, medicine, surgery, obstetrics, veterinary medicine and hygiene. Members of the academy who have been chosen to deliver addresses are: Widal, medicine; Delbet, surgery; Wallich, obstetrics; Barrier, veterinary medicine, and Calmette, hygiene.

Indulgence of Tribunals Toward Healers

The correctional court of Villefranche-en-Rouergue (department of Aveyron), in a recent judgment, declared that a healer is not guilty of illegal practice of medicine (without a physician's diploma) when his treatment is restricted to the laying on of hands to the diseased part, while invoking some mysterious and benevolent power. Under pretense that the healer believes he is able to communicate to the patient a power coming from some outside source, and for which he claims to be simply the instrument, the tribunal enunciated, as one of the reasons for its decision, the principle that:

> The nature, the power and degree of utilization of new forces of recent discovery have not yet been defined and demand great caution in refusing or accepting such phenomena which at first appear inadmissible, because they upset our present knowledge and habits. The tribunal is confused, it is true, by the certitude expressed by the witnesses, but has not been shown sufficient proof that the curative power in question is a reality; that, while admitting that cures were realized, it would be impossible to determine whether the therapeutic factor comes from the accused or is not the effect of autosuggestion in the patient, thus becoming his own healer.

The defective way in which the law of Nov. 30, 1892, bearing on the practice of medicine has been drawn up allows tribunals to be lenient toward all sorts of healers. By the terms of this article "all persons who have not been awarded a diploma of doctor of medicine, and who, as a rule, take part or give constant treatment in diseases or surgical affections" practice medicine illegally. Thus it is seen that, to practice medicine illegally and be susceptible of punishment,

one must give constant treatment to a patient. The healer brought before the tribunal of Villefranche-en-Rouergue had advised two patients out of 8,000 to refrain from the use of medicaments and not to wear a splint. But these appeared to be isolated and accidental acts in the practice of the healer's profession, and the tribunal did not take them into consideration. On the other hand, the tribunal decided that, properly speaking, there had been no therapeutic advice given, and, moreover, each patient had been visited only once, and thus there had been no repetition of professional treatment on the same patient. In this case the law was not applicable. This proceeding shows clearly the weak points of the law, through which many cases of illegal practice of medicine may remain unpunished.

The Paris Congress of Mental Hygiene

The president of the executive committee of the international committee of mental hygiene (United States) has informed the Comité français d'initiative of the next congress of mental hygiene, which is to be held next June in Paris, that it is the intention of the committee, after complete organization of the international committee, to hold the first international congress of mental hygiene in the United States, the country in which the first mental hygiene body was formed and from which was created the French league of mental hygiene. The French committee to encourage the American undertaking decided that the congress that will be held in Paris will be called the Paris Congress of Mental Hygiene, and not the International Congress of Mental Hygiene, as it had been previously decided.

Homage to Professor Widal

Dr. Fernand Widal, professor of clinical medicine of the School of Medicine of the University of Paris, has been elected a member of the Academy of Sciences of Sweden.

MADRID

(From Our Regular Correspondent)

March 9, 1922.

Defects of the Human Body

Dr. Gimeno, count of Gimeno, former minister, member of the academy and ex-professor of the Medical School of Madrid, on being accepted as a member of the Royal Academy of Exact Physical and Natural Sciences, delivered a speech full of poetical images, historical quotations and learned allusions. Dr. Gimeno regretted the fact that the septum or screen function assigned to the diaphragm was apparently not discharged very well, its failure occasionally endangering health and even life. The place where the kidney is lodged is not tightly closed. Its two leaves separate and are only joined together above, remaining apart inside and also in the lower portion. The kidney is therefore like a purse hanging upside down and therefore liable to lose its contents. The ureter is far from perfect. The standing position has lengthened it, forming its pelvic portion and at the same time a narrow path across the iliac vessels. This is the price we have to pay for the privilege of standing on two feet. The cystic duct offers in Heister's folds an obstruction to the passing out of concrements. Perhaps it might have been desirable to have the masculine organs of generation inside the abdomen as in the cetacea, so that they would not pave the way to hernias when forced out. Dr. Gimeno has seen some patients die from lip carbuncles due to the ready connection of labial veins with facial veins and thence to the ophthalmic veins, enabling the germs finally to make their way to the cavernous sinus. He instanced many other faults of the human organism and touched on sensitiveness, saying, "As to pain, what is its cause? Is not pain, which embitters existence, being the father of sorrow and a brother to pessimism, due to the effect of a change, perversion or abnormality of sensation, depending for its causation on nerves and consciousness?" This is another defect, since it spoils life. Pain such as manifests itself, for instance, in birthpangs is entirely unnecessary. Coming to the senses, he commented on the readiness with which they mislead us. He recalled that smell admitted without protest the deathly carbon monoxid, enjoyed poisons such as chloroform and failed to notice most of the natural odors. Sight, he declared, is the sense which depends most on human invention to be really useful. The eye already begins to lose its power at the age of 10 years. He quoted Dr. Márquez, the professor of ophthalmology in the Madrid Medical School, to the effect that nature has forgotten to provide a reverse accommodation. Therefore, the eye can focus the nearest objects, only by increasing the curve of the crystalline lens, through the contraction of the ciliary muscle, and in order to adapt itself to distant objects must discontinue the contraction of that muscle. This is what causes shortsightedness in persons who cannot decrease the curve of the crystalline lens in order to diminish refraction. Put together all farsighted, shortsighted and astigmatic eyes, and you will see what few people enjoy a normal sight. In speaking of pregnancy, he recalled the general manifestations, the troubles that accompany it, which indicate the poisoning caused by the fetus and its appendages, against which even the mother's organism sometimes cannot defend itself. The human machine has been excelled by man made machines. The biblical clay was of good quality, but the product turned out somewhat imperfectly, perhaps as a punishment to our pride in considering the universe anthropocentric.

Typhus Fever Epidemic in Madrid

About ten years ago, there was a typhus fever epidemic in Madrid which caused over 1,000 deaths. Since that time, there have been no cases. Now the disease has appeared again and the sanitary authorities are chiefly to blame for its spread. The epidemic began in this way: the physician in charge of the infectious disease wards in the General Hospital of Madrid, Dr. Marañón, was informed that there was a case of typhus fever in the Segovia Inn. The truth of the report was verified by him. The Segovia Inn is a disreputable lodging house, where two or three hundred beggars sleep every evening, paying 30 *centimos* (about 4 cents) for the privilege. Dr. Marañón immediately asked the authorities (this happened over a month ago) to close the inn, after disinfecting the premises. The authorities, however, remained inactive. There are already seventy-five cases of typhus fever in the General Hospital and new pavilions will have to be equipped for typhus fever cases in the San Juan de Dios Hospital. The authorities finally closed the Segovia Inn when one of the habitual lodgers, on being taken sick, crawled to one of the sentry boxes at the very gates of the royal palace, whence he was taken to the General Hospital.

The General Inspector of Public Health Becomes Again a General Director

The office of general inspector of public health on its creation bore the name of "general director of public health." In order to place it beyond political influence, the name was changed to general inspector, the first incumbent being Dr. Martín Salazar. Now it has reverted to its original name, Dr. Salazar remaining in charge. We know this change in designation has pleased Dr. Salazar, but we have often seen with regret other so-called technical offices filled by politicians. It would be nothing short of a misfortune to have some department chief do the same in this case, placing public health matters in charge of some politician lacking all qualifications, but well provided with friends.

BUDAPEST

(From Our Regular Correspondent)

March 8, 1922.

Myopia in Hungarian Schools

At a recent meeting of the Budapest Medical Society, Dr. Tejer reported on an inquiry as to the prevalence of myopia in and around Budapest, in which 2,289 children were examined, and the results of examination of the various school classes were tabulated. In the first class, the cases of myopia amounted to 10.5 per cent.; in the second the percentage was 7, in the third 4, in the fifth 2, and in the sixth 0.4, showing a gradually increasingly percentage with the lengthened period of study. The speaker said the tables demonstrated the great influence of the school in the development of myopia. For a comparison, he also examined children of a few private institutions and found that there the percentage of myopia was only 1.1, a proof that the unfavorable hygienic conditions prevalent in the districts in which the children were living was the cause of the eye trouble. He observed very little follicular inflammation, and trachoma in a few cases only. There was one case of congenital cataract in a girl of 7, who had been looked on as idiotic. The affection had completely escaped the notice of the teachers. The school buildings have been inspected from a hygienic point of view and many of them condemned. Although new, the seats were oldfashioned, and compelled a faulty position. Some of the rooms were very dark, only one third of the area of one large room receiving direct light from without. The heating of all the schools was, so to speak, perfect, but on account of the street noises the ventilation had to be subordinated to comfort.

Venereal Diseases and Life Insurance

Dr. Low, chief physician of an important insurance company, has said, at a recent meeting of insurance physicians, that the history of an attack of syphilis in the antecedents of a person wishing to insure his life or to make some provision against sickness is always regarded as a detail of considerable importance, while, on the other hand, not much stress is laid on conditions of gonorrheal origin. It is, however, an open question as to which of the two diseases is more fraught with detrimental results to life and health. Syphilis, it is true, is credited with an alarming array of pathogenic possibilities, but in the great majority of instances, if it has been properly treated, life may run its normal course. In gonorrhea, however, more or less intense prostatic irritation occurs in a tangible proportion of cases, and more or less pronounced narrowing of the urethra is another complication which claims a comparatively large share of victims among the sufferers. If we reflect on the grave consequences of these lesions to the future health and even life of those affected, we may be tempted to ask whether, after all, gonorrhea is not, in the aggregate, more serious in its ultimate consequences than the much dreaded syphilis, and consequently more deserving of attention at the hands of examining physicians. It may be asserted with some show of reason that if syphilis is more menacing from the point of view of sickness, gonorrhea, by virtue of its secondary and far-reaching effects on the urinary tract, is more dangerous to life. The question is one which can be decided only by reference to statistics bearing on the frequency of complications and sequelae; but, unfortunately, no such statistics are available for the purpose, and each surgeon is fain to draw approximate conclusions based on his own experience. It is certainly a mistake to regard gonorrhea as a necessarily benign disease; for the frequency of one or another of its many complications renders it potentially grave. An uncomplicated attack of gonorrhea in which cure is effected is doubtless a detail of no particular pathologic significance, but it behooves practitioners entrusted with the responsible duty of examining candidates for life or sickness insurance to bear the possibilities in mind in arriving at a conclusion.

BERLIN

(From Our Regular Correspondent)

March 18, 1922.

The Campaign Against Sexual Diseases

The Berlin Medizinische Gesellschaft held a meeting, March 8, to discuss the draft of the law to combat sexual diseases, concerning which I gave a detailed account in a recent letter. Three months ago, the Berlin dermatologist Dr. Fritz Lesser, who, during the war, did excellent service in Warsaw in preventing the spread of sexual diseases, had introduced a resolution declaring that the Berlin Medizinische Gesellschaft, in the interest of public health, favored the continuance of the sanitary control measures. The society's committee on social politics called in experts to present the various phases of the question and thus aid in reaching a correct conclusion. Professor Grotjahn of the department of social hygiene has published a report of the transactions. He calls attention to the fact that the adoption of the bill as drafted would mean the actual abolition of the present method of police supervision, the so-called reglementation. He states that the system of reglementation is opposed to the principles of democratic government and the present constitution of the country in that it constitutes class legislation by bringing a certain group of women under the operation of a banning law. Physicians cannot consistently oppose the abolition of the system of reglementation unless they can furnish proof that the results of police supervision, from the standpoint of public health, are so remarkably good that such a violation of the rights of citizens is justifiable from the point of view of public welfare. The members of the society's committee did not become convinced that such is the case, although they had listened to the arguments presented by the supporters of this opinion. In addition, it should be noted that the bill, although it abolishes the system of reglementation, provides for other tried means of protecting the public health against the dangers of sexual disease in both sexes. The supervision is merely taken out of the hands of the police and put in the hands of the physicians and the public welfare department. The Berlin Medizinische Gesellschaft is in a position to welcome this development, since the bill meets the wishes of physicians, in that it provides measures to check the growth of charlatanry and makes venereal diseases notifiable, under certain conditions. The following resolution was accordingly accepted by the committee, with few dissenting votes:

> The Berlin Medizinische Gesellschaft attaches no value to reglementation, provided the new regulations in regard to the supervision of men and women who are suspected of spreading sexual diseases are of such a character as to include the application of all tried medical measures for the prevention of venereal disease.

The Causative Agent in Foot and Mouth Disease

For many years attempts have been made to discover the causative agent of foot and mouth disease, which works such havoc among cattle. Professor Löffler, late bacteriologist of Greifswald and afterward director of the Robert Koch Institute for Infectious Diseases, in Berlin, devoted much time to this problem. On an island near Rügen, a research laboratory was erected for him, where, with his assistants, he sought to find the causative agent of this disease. He also carried on investigations to discover methods of affording protection against infection with foot and mouth disease. According to the statement of Dr. Bumm, the head of the public health service, made before a committee of the reichstag, March 14, Oberregierungsrat Ditze, of the public health service, has succeeded in developing through two or

three generations certain cultures with which he was able to bring about formation of complement in animals infected with foot and mouth disease. He was also able to protect animals against the disease by inoculating them with these cultures. Absolute proof that in these cultures the causative agent of foot and mouth disease is present has not been furnished, for it has not yet been possible to produce the disease in healthy animals by inoculating them with these cultures.

Women Students in the Universities of Germany

The number of women studying at German universities has still further increased, of late, in spite of the unfavorable prospects for the academic professions in general and for women students in particular. The number of women students, during the summer semester of 1921, reached the hitherto unattained level of 8,293. This year's increase is, to be sure, not as great as during the last few years. Those preparing themselves in medicine and for the teaching profession do not seem to be so much in preponderance as formerly. The major subjects that occupy women at the present time are: evangelical theology, 72, as compared with 40, two years ago; jurisprudence, 371, as against 380 two years ago; medicine, 2,013, as against 2,080; dentistry, 319, as against 165; philosophy and philology, 3,009, as against 3,070; mathematics and the natural sciences, 1,150, as against 1,174; pharmacy, 147, as against 101; political science and political economy, 1,212, as against 714. Berlin claims the largest number of women students, namely, 1,314; then follows Munich with 1,052 and Freiburg with 528. Frankfort and Bonn have, each, 422 women students; Hamburg has 421; Cologne, 414; Leipzig, 368; Heidelberg, 364; Breslau, 344; Marburg, 331; Münster, 321; Jena, 302; Göttingen, 293; Tübingen, 224; Königsberg, 205; Würzburg, 198; Halle, 173; Kiel, 160; Giessen, 131; Greifswald, 115; Rostock, 110, and Erlangen, 81.

Incidence of Smallpox in the German Empire

In 1921, 685 cases of smallpox were reported to the German authorities, as compared with 2,100 in 1920 and with 290, the average for the last five years before the war. When we consider how great the danger of contagion was under war conditions, especially on our eastern and southeastern borders, the foregoing figures must be regarded as extremely small. Doubtless this comparatively favorable showing is to be explained by the vigilance of the public health authorities at the borders and by the strict enforcement of the compulsory vaccination law throughout Germany.

Marriages

ARTHUR J. FAWCETT, Glendale, Ore., to Miss Verl Cardwell of Myrtle Creek, Ore., at Roseburg, Ore., February 15.

HAROLD ALBERT KENT, Dorchester, Mass., to Miss Marjorie G. Munro of West Roxbury, Mass., March 22.

EDWIN AARON SANBORN, Somerville, Mass., to Miss Josephine C. Stebbens of Hanson, March 21.

WILLIAM JAMES CAESAR to Miss Elsa Fredrika Bohman, both of San Francisco, recently.

LABAN A. STEEVES, Dallas, Ore., to Miss Martha Richardson of Portland, Ore., recently.

PADEN E. WOODRUFF to Miss Mildred O. Cox, both of Pickens, S. C., March 22.

ARTHUR E. SMITH to Miss Miriam H. Mitchell, both of Chicago, March 11.

ZALMAN J. SABSHIN to Miss Sonia Barnhard, both of New York City, April 1.

RAYMOND STENGER to Miss Inez Worley, both of Marion, Ind., February 9.

Deaths

Henry Lowndes Lynah ⊕ New York; Medical College of South Carolina, 1900; a member of the American Laryngological, Rhinological and Otological Society and the New York Academy of Medicine; laryngologist to Willard Parker and Riverside hospitals; laryngologist and otologist to the Kingston Avenue Hospital; assistant surgeon to the New York Eye and Ear Infirmary; assistant laryngologist to the University and Bellevue Dispensary; chairman of the Eye, Ear, Nose and Throat Section of the Medical Society of the State of New York, and of the section on laryngology of the New York Academy of Medicine; well known for his work in bronchoscopy and esophagoscopy; died in Charleston, S. C., March 31, aged 43.

David Gifford Willets, Pleasantville, N. J.; Department of Medicine of George Washington University, 1907; formerly assistant in the Zoology and Hygiene laboratories, U. S. Public Health and Marine Hospital Service, Washington, D. C.; assistant professor of medical zoology, College of Medicine and Surgery, University of the Philippines, and assistant epidemiologist, U. S. Public Health Service; died, March 26, at Atlantic County Insane Asylum, Smiths Landing, N. J.

Porter Llewellin Chambers ⊕ New York; Bellevue Hospital Medical College, New York City, 1876; attending surgeon to the Presbyterian Hospital and Woman's Hospital, New York; consulting surgeon to the French Hospital and the Southampton (L. I.) Hospital; professor of gynecology, Columbia University, New York, and member of the Southern Surgical and Gynecological Association; died, March 26, from heart disease.

Robert Stephen Joyce ⊕ Ogden, Utah; Rush Medical College, Chicago, 1891; chief surgeon for the Utah Idaho Central Railroad and division surgeon for the Denver and Rio Grande Railroad, Southern Pacific and the Union Pacific Railroads; died, February 21, at the Thomas Dee Memorial Hospital, aged 54, from streptococcemia, resulting from an infected finger.

Eli Sheridan Persons, Slingerlands, N. Y.; College of Physicians and Surgeons, Baltimore, 1892; Long Island College Hospital, 1895; member of the Medical Society of the State of New York; former coroner of Schoharie County; suffered a fractured skull when he was run down by an automobile, March 21, and died, March 22, aged 54.

Stephen Warner Perry, Warwick, N. Y.; Cleveland College of Physicians and Surgeons, Medical Department Ohio Wesleyan University, 1896; veteran of the Spanish-American War; served in the M. C., U. S. Army, during the World War with the rank of major; died, March 17, aged 47, at Bradentown, Fla.

Marjorie Irene Cameron, Pithajurain, Godaveri District, India; University of Illinois College of Medicine, Chicago, 1913; left for India in 1914 and served at the Women's and Children's Hospital, Corsanada, India, and later as a Baptist Medical Missionary at Pithajurain; died recently in India, aged 33.

James Rufus Bird, Brooklyn; College of Physicians and Surgeons in the City of New York, 1858; member of the Medical Society of the State of New York; one of the founders and consulting physician of St. John's Hospital, Brooklyn; died, March 27, aged 89, from senility.

Arthur A. Metcalf, Crystal Falls, Mich.; College of Physicians and Surgeons, Keokuk, Iowa, 1882; member of the Michigan State Medical Society and the Washington State Medical Association; also a druggist; died recently, aged 68.

Harry Atwood Weymouth, Saco, Me.; Medical School of Maine, 1882, Portland; at one time city physician and member of the board of health; formerly mayor of Saco and member of the state legislature; died, March 18, aged 63.

William G. Safford, Tarkio, Mo.; College of Physicians and Surgeons, Keokuk, Iowa, 1878; member of the Missouri State Medical Association; former mayor of Tarkio and president of the Pension Board; died, March 12, aged 71.

⊕ Indicates "Fellow" of the American Medical Association.

John P. Black, Greenfield, Ind.; Medical Department University of Indianapolis, 1885; secretary of the local board of health; president of the Hancock County Medical Society; died, March 16, aged 68, from cerebral hemorrhage.

John Endicott Chapin, Redwood City, Calif.; Washington University Medical School, St. Louis, 1909; was found dead in his office with a bullet wound in his head, presumably self-inflicted, March 24, aged 50.

Charles Theodore Sauer ✠ Brooklyn; Long Island College Hospital, Brooklyn, 1885; laryngologist to the Methodist Episcopal Hospital, where he died, March 28, aged 57, from septicemia and pneumonia.

Onnie L. Deadwyler, Carlton, Ga.; University of Georgia Medical Department, Augusta, 1892; member of the Medical Association of Georgia; was killed in an automobile accident, March 18, aged 51.

John D. Slayden, Clarksville, Tenn.; Jefferson Medical College, Philadelphia, 1869; member of the Tennessee State Medical Association; veteran of the Civil War, died, March 24, aged 70.

Augustus Lee Faler, Buckland, Ohio; Eclectic Medical Institute, Cincinnati, 1905; died, March 17, aged 49, from toxemia, the result of malignant jaundice and pleuropneumonia.

Charles A. Griswold, New London, Conn.; College of Physicians and Surgeons in the City of New York, 1856; veteran of the Civil War; died, March 29, aged 91, in the Memorial Hospital.

George **Warren Anthony Hess,** Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1908; served in M. C., U. S. Army; died, March 25, aged 36, from pneumonia.

Burrel J. Hubbard, Kaufman, Texas; Medical Department University of Louisville, 1891; member of the State Medical Association of Texas; died, March 23, from acute indigestion.

Leroy Stanton Hennen ✠ Leetonia, Ohio; University of Nashville Medical Department, Nashville, Tenn., 1889; died suddenly, March 18, aged 53, from heart disease, in Toledo.

Elmer Lorenzo Sutherland ✠ Sheridan, Mont.; University of Bishop College Faculty of Medicine, Montreal, Quebec, 1899; died, March 21, aged 48, at the St. James Hospital.

Alfred G. Davison, Cambria, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1871; Civil War veteran; died, March 1, aged 77, following a long illness.

Thomas Isaac Conwell ✠ Mobile, Ala.; University of Nashville Medical Department, 1903; was found dead in his office at Chickasaw, March 20, aged 39, from heart disease.

McWalter Bernard Sutton, New Rochelle, N. Y.; University and Bellevue Hospital Medical College, New York City, 1905; died, March 30, aged 49, in Hamburg, Germany.

Oliver F. Gray, Spencer, Ind.; Medical College of Indiana, Indianapolis, 1878; member of the Indiana State Medical Association; died recently, following a short illness.

Jerome Levis Pyle, Tanguy, Pa.; Jefferson Medical College, Philadelphia, 1885; member of the Medical Society of the State of Pennsylvania; died, March 22, aged 64.

Max Reichman ✠ Chicago (licensed, Illinois, 1895); former radiographer, Alexian Brothers' Hospital, Chicago; died, April 5, from carcinoma of the intestines, aged 56.

Henry Whisler, Wilmington, Ohio; Starling Medical College, Cincinnati, 1877; member of the Ohio State Medical Association; died, February 25, aged 86, in Sabina.

Anton **Enger,** Brooklyn; University of Christiania, Norway, 1897; member of the American Medico-Pharmaceutical League; died, March 22, aged 55, from pneumonia.

Charles Clinton Agin ✠ Cincinnati; Miami Medical College, Cincinnati, 1875; founder and president of the West End Medical Society; died, March 22, aged 70.

Daniel R. Van Reed, Shelbyville, Ill.; Jefferson Medical College, Philadelphia, 1868; veteran of the Civil War; died, March 26, aged 76, following a long illness.

William Kilton Lackey ✠ Ripley, Tenn.; Vanderbilt University Medical Department, Nashville, 1881; died, March 25, aged 64, from cerebral hemorrhage.

Issac Thomas Evans, Columbus, Ohio; Eclectic Medical College of Pennsylvania, Philadelphia, 1886; veteran of the Civil War; died, March 14, aged 80.

William Addison Richards, Morganfield, Ky.; Bellevue Hospital Medical College, New York City, 1879; died, March 3, aged 68, following a long illness.

Charles Edward Martin, Seward, Ill.; Rush Medical College, Chicago, 1891; member of the state legislature; died, March 22, aged 55, from pneumonia.

George Samuel Love ✠ Waukesha, Wis.; Northwestern University Medical School, Chicago, 1894; died, March 31, aged 54, following a long illness.

Herman A. Richter, Garner, Iowa; Medical Department of the University of Wooster, Cleveland, 1891; died, March 16, aged 54, from arteriosclerosis.

Elmer E. Morgan ✠ Fort Wayne, Ind.; Rush Medical College, Chicago, 1893; died, March 22, aged 60, at the Fort Wayne Lutheran Hospital.

George Henry Galbraith, Natrona, Pa.; Dartmouth Medical School, Hanover, N. H., 1862; veteran of the Civil War; died, March 25, aged 86.

William Turner Jordan, Driver, Va.; Medical Department of the University of New York, 1859; Confederate veteran; died, March 13, aged 86.

Glover Brown Wilcox ✠ San Francisco; College of Physicians and Surgeons, Los Angeles, 1908; died, March 13, aged 43, from pneumonia.

John Erastus Weaver, Rochester, N. Y.; Medical Department of Columbia College, New York City, 1875; died recently, aged 74.

Wilson Marshall McClellan ✠ Ashland, Ohio; Baltimore Medical College, 1895; served in the World War; died recently, aged 64.

Theophilus S. Bedwell, Dugger, Ind.; Medical Department Butler University, Indianapolis, 1880; died, March 11, aged 63, from paresis.

Elisha M. Cox ✠ Fairmont, W. Va.; Medical Department of the University of Louisville, 1897; died, March 27, aged 58, from ascites.

George Waldo Bryant, Truckee, Calif.; California Medical College, Los Angeles, 1897; died, March 15, aged 47, from pneumonia.

Charles Henry Boyd, West Palm Beach, Fla.; Howard University School of Medicine, Washington, 1919; died recently, aged 31.

Hilary D. Rodman, Springfield, Ky.; University of Louisville, 1879; died, February 26, aged 68, from cerebral hemorrhage.

Corydon P. Gowman, Mount Airy, Md.; Detroit College of Physicians and Surgeons, Detroit, 1893; died, March 26, aged 60.

Andrew Henri Hart, New York City; American Medical College, St. Louis, 1880; died, March 19, aged 80, from heart disease.

John S. Bumpas, Mount Pleasant, Tenn. (licensed, Tennessee, 1889); died, March 19, aged 61, from cerebral hemorrhage.

Theodore H. Winans, Colorado Springs, Colo.; Chicago Homeopathic Medical College, 1888; died, March 17, aged 68.

Charles L. Green, Pasadena, Calif.; Medical Department of the University of the City of New York, 1864; died, March 14.

James A. Mairs, Browning, Mo.; Louisville (Ky.) Medical College, 1878; died, March 9, aged 66, from pleuropneumonia.

Clara Maria Sweet, Springfield, Mass.; Boston University School of Medicine, Boston, 1894; died, March 17, aged 62.

Jethro Davis, Monmouth, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1897; died, March 16, aged 55.

Albert Eugene Coy, Chicago; University of Michigan, Ann Arbor, 1884; died, April 4, aged 63, from heart disease.

John Hilman, Gallatin, Mo. (years of practice); Confederate veteran; died, March 14, at Hollister, aged 85.

Gilbert Shepard, Santa Cruz, Calif.; Hahnemann Medical College of Chicago, 1870; died, March 7, aged 83.

Harrison Neal, San Miguel, Calif.; Jefferson Medical College, Philadelphia, 1859; died, March 11, aged 87.

Earl Rodney Mellott ✠ Toledo, Ohio; Toledo Medical College, 1912; died, March 23, aged 33.

The Propaganda for Reform

In This Department Appear Reports of The Journal's Bureau of Investigation, of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other General Material of an Informative Nature

YEAST PREPARATIONS AND VITAMIN B CONCENTRATES

Report of the Council on Pharmacy and Chemistry

The Council has adopted the following principles as a guide in the consideration of yeast preparations and vitamin B concentrates for New and Nonofficial Remedies.

W. A. Puckner, Secretary.

1. The claim that deficiency of vitamin B and diseases resulting therefrom are common conditions in the United States is not at this time supported by adequate acceptable evidence.

2. The claim that yeast preparations or extracts are, in principle or in general, essentially more effective or more practical or more available means of administering vitamins than the commonly available vitamin-containing foods is not at this time supported by adequate acceptable evidence. (Any claims for superiority made for such products proposed for inclusion in New and Nonofficial Remedies must be presented in detail and passed on specifically by the Council.)

3. The claim that therapy with yeast or yeast preparations has as yet more than an experimental status is not at this time supported by adequate acceptable evidence.

Preparations for which such claims are made, directly or by implication or in one-sided quotations, in advertisements or letters or by salesmen, cannot be admitted to or retained in New and Nonofficial Remedies.

MORE MISBRANDED NOSTRUMS

Abstracts of Recent Notices of Judgment Issued by the Bureau of Chemistry of the United States Department of Agriculture

Diemer's Manhood Tablets.—The Dr. F. W. Diemer Medicine Co., Springfield, Mo., shipped in November, 1919, a quantity of "Dr. F. W. Diemer's Manhood Tablets." When these were analyzed by the federal chemists they were found to consist chiefly of sodium bicarbonate (baking soda), reduced iron, a compound of zinc and phosphorus and small amounts of capsicum (red pepper), strychnin, and extract from a laxative plant drug. The trade package bore such claims as:

". . . Manhood Tablets For Sexual and Seminal Weakness . . . For Rheumatism, Neuralgia, Catarrh, Wasting Diseases, Nervous Debility, Impure Blood and all Kindred Diseases resulting from a Worn Out Nervous System."

These claims were declared false and fraudulent and in March, 1921, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 9604; issued Dec. 22, 1921.*]

Santal-Miller.—The General Drug Co., New York City, shipped in June, 1919, a quantity of "Santal-Miller" to Chattanooga. The Bureau of Chemistry reported that analysis showed the product to consist essentially of santal oil flavored with oil of cinnamon. It was falsely and fraudulently claimed on or in the trade package that the stuff would cure or relieve gonorrhea, would lessen the discharge and would spare the patient the annoyance of a prolonged attack and relieve him from the pain resulting therefrom. In November, 1920, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 9611; issued Dec. 22, 1921.*]

Long's Kidney and Bladder Remedy.—William T. Long, trading as the William T. Long Medicine Co., Oklahoma City, Okla., shipped in May, 1919, a quantity of "The World's Greatest Kidney and Bladder Remedy" which was misbranded. The federal chemists reported that analysis showed the stuff to consist of a watery solution of acetic acid and tannin-bearing plant material. This product, which the evidence showed was made of vinegar and berries, was falsely and fraudulently represented as an effective treatment, remedy and cure for kidney and bladder trouble, gravel, Bright's disease, diabetes, bed wetting, female weakness, rheumatism and pellagra. In February, 1921, Long was found guilty and was fined $200 and costs.—[*Notice of Judgment No. 9614; issued Dec. 22, 1921.*]

999 Nerve Tonic.—The Combination Remedy Co., Pittsburgh, shipped from Pennsylvania to Maryland a quantity of "999 Nerve Tonic" which was declared misbranded. The Bureau of Chemistry reported that analysis showed the stuff to consist of capsules containing phosphorus and extractives of damiana and nux vomica. The box label bore the claim:

". . . The best possible remedy for nervous disorder and lost vitality, no matter from what cause."

This claim was declared false and fraudulent, since the article contained no ingredient or combination of ingredients capable of producing the effect claimed. In June, 1921, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 9619; issued Dec. 22, 1921.*]

Banes' Female Pills.—Dr. Artilens Valerius Banes, who did business as the "Dr. A. V. Banes' Medicine Co.," St. Joseph, Mo., shipped in October, 1918, from Missouri to Kansas a quantity of "Dr. A. V. Banes' Female Pills" which were misbranded. Analysis by the Bureau of Chemistry showed the pills to consist essentially of compounds of calcium, magnesium and iron, and mercury, capsicum (red pepper), sugar and aloes. Banes' product was falsely and fraudulently labeled as an effective treatment, remedy and cure for disorders of menstruation, nervous headache, nervous prostration, general debility, indigestion, neuralgia, conditions due to change of life, etc., "when in truth and in fact it was not." In September, 1920, Banes pleaded guilty and was fined $10 and costs.—[*Notice of Judgment No. 9631; issued Dec. 22, 1921.*]

KOLOR-BAK

A Hair Dye Exploited by Direct and Inferential Falsehood

"Kolor-Bak" is put on the market by the Hygienic Laboratories of Chicago, successors to the "Kolor-Bak Products Co." Here are some of the claims made for this preparation:

"Kolor-Bak is in no sense a dye or stain."

". . . restores gray hair to the original color, no matter what it may have been; whether brown, auburn, red, blonde or black."

"It is positively harmless . . . none of the injurious effects of many hair preparations can result from Kolor-Bak."

". . . nor is it one of those 'hair restorers' containing powerful mineral ingredients. . . ."

". . . to restore gray hair to its original color we must repair the pigment supply. That is what 'Kolor-Bak' does."

"It stimulates the papilla to increased pigment production. . . ."

Probably because of the wide advertising campaign of this concern, The Journal, during the past year or two, has received a very large number of inquiries regarding it. It was finally decided to analyze the product. Specimens were purchased and turned over to the A. M. A. Chemical Laboratory, whose report follows:

"Specimens of Kolor-Bak, sold by the Hygienic Laboratories of Chicago, were examined. The presence of 5 per cent. of alcohol is declared on the label and the preparation is stated 'to be free from nitrate of silver, mercury, or any other ingredients injurious to the hair or scalp.' No other information concerning its composition was given. Kolor-Bak was found to be a colorless liquid containing a considerable quantity of a pale yellow powder, which resembled precipitated sulphur. The preparation had a slight acetous odor, an acid reaction and was faintly perfumed.

"Qualitative tests demonstrated the presence of precipitated sulphur, a lead salt, an acetate, a chlorid, a sodium salt, alcohol, glycerin and traces of a sulphate and of a calcium salt. Borax, cantharides, hydrogen peroxid, silver salts, mercury salts, pilocarpin, paraphenylendiamin or quinin—substances sometimes found in 'hair dyes' or 'hair tonics'—were absent, as also were nitrates, phosphates and carbonates.

Analysis indicated that different specimens of Kolor-Bak differed considerably in quantitative composition. Accordingly three separate specimens of Kolor-Bak were examined and the average results obtained in the analyses recorded. According to the analyses the composition of Kolar-Bak (in grams per 100 c.c.) is essentially as follows:

Lead acetate, U. S. P (sugar of lead)	0.60	gm.
Precipitated sulphur	1.00	gm.
Lead chlorid	0.16	gm.
Lead oxid (litharge)	0.20	gm.
Sodium chlorid (common salt)	0.60	gm.
Glycerol	2.00	gm.
Alcohol, by volume	4.8	per cent.
Water, sufficient to make	100	c.c.

"The analytical results show that Kolor-Bak is a lead and sulphur wash. It is probable that lead chlorid was not a constituent of the formula for the preparation but that this compound was formed by interaction between the lead acetate and the sodium chlorid after the ingredients were mixed. Although the label declares that the preparation is free from 'any ingredients injurious to the hair or scalp,' Kolor-Bak contains lead acetate, a substance which is distinctly poisonous."

From the chemists's report it is obvious that each and every one of the claims quoted at the beginning of this article is specifically false. Kolor-Bak *is* a dye; it does *not* "restore gray hair to the original color"; it is *not* "positively harmless"; it *is* "one of those hair restorers containing powerful mineral ingredients"; it does *not* "repair the pigment supply," nor does it "stimulate the papilla to increased pigment production."

Medical literature contains references to cases of poisoning from hair dyes containing lead salts, and most standard books on therapeutics and pharmacology refer to this fact. In Peterson and Haines' "Text-Book of Legal Medicine and Toxicology" in the chapter on chronic lead-poisoning we read:

"Most of the lotions called 'hair-renewers' are preparations containing sulphur and lead acetate or calcium plumbite. They do not restore the natural pigment, but cause the precipitation of black lead sulphid in the hair structure, so as to simulate the natural color."

Correspondence

"THE COEXISTENCE OF HODGKIN'S DISEASE AND AMEBIASIS"

To the Editor:—Our note on Hodgkin's disease and amebiasis (THE JOURNAL, Feb. 18, 1922, p. 532) has brought us additional material, including an inguinal gland from a patient with an intestinal infection with *Endameba dysenteriae*. This gland contains ameboid cells with pseudopodia which we interpret as amebas in the portion of the gland showing greatest disorganization. These amebas have a small, spherical, vesicular nucleus with a spherical, central karyosome and peripheral chromatin on the nuclear membrane identical in morphology with that of the ameba of human amebiasis. We have verified this determination by finding these amebas in the gland in several stages of nuclear division. This division is not that of the type in human cells but that of the rhizopodos, with intact nuclear membrane, a meridional intradesmose on the inner face of the nuclear membrane, and a small number of chromosomes, probably six. In dividing human cells in lymph glands of Hodgkin's disease, the nuclear membrane disappears entirely, there is no intradesmose, and the number of chromosomes in several cells in which we have determined it is not less than twenty-four. This morphologic and cytologic evidence is proof that *Endameba dysenteriae* is present in the hypertrophied lymph glands in Hodgkin's disease.

CHARLES A. KOFOID, PH.D.,
OLIVE SWEZY, PH.D.,
LUTHER M. BOYERS, M.D.,
Berkeley, Calif.

"BENIGN GIANT CELL TUMOR IN BONE"

To the Editor:—The editorial comment on this subject (THE JOURNAL, April) is important and valuable so far as it emphasizes the benign characteristics of this process, but is misleading in giving the impression of dealing with a neoplasm. The evident inspiration of the editorial is the excellent paper of H. S. Martland and the discussion it brought forth before the New York Pathological Society. I have been greatly interested in this particular type of bone lesion for a number of years, and beg the privilege of pointing out that the editor appears to have quite overlooked the "yolk of the egg" in discussing Martland's paper, when no mention is made of his statement that:

> From my observation in these two cases I am of the opinion that so-called benign giant cell tumor is entirely an inflammatory process in the nature of exuberant granulation tissue, located mainly in the myeloid part of the bone, formed as an attempt to repair previous bone destruction, due to trauma in the single lesions and in the multiple ones to some unknown cause.

For a number of years I have stressed the inflammatory character of these processes in numerous papers, covering the subject under the title "Hemorrhagic Osteomyelitis." The terms giant cell sarcoma and giant cell tumor are definite misnomers, because true tumor giant cells are never present in such lesions. The foreign body, or scavenger, cells that are present are generally well recognized as not possessing tumor-forming function. They are always found in greatest profusion in areas containing large amounts of sterile débris, which, it appears, it is their function to remove.

In the metaplastic tissue, or nonhemorrhagic areas, they are frequently absent altogether.

If pathologists would discontinue the use of the terms giant cell sarcoma and tumor in describing these inflammatory processes, and note instead the criteria the lesions present of an inflammation or osteomyelitis, there would be an immediate cessation on the part of the surgeons in performing radical or mutilating operations in cases of this type. Professor Ewing's sweeping statement that he knows of many cases in which patients have lost their limbs, and several that have lost their lives, from infection from bone cysts after exploratory incision and curettage sounds astounding and seems incredible of occurrence in these days.

One must agree that it is deplorable to think that, of thirty prominent surgeons present at the meeting in New York, twelve would have amputated for a lesion in the tibia described and shown them as a benign process. I hope that some of the twelve were from other cities. Most of the prominent New York surgeons are more or less familiar with the facts concerning the inflammatory nature of these cases.

George Barrie, M.D., New York.

[Comment.—The "yolk of the egg" was not overlooked by the editor, but the question of the real nature of these growths, whether inflammatory or neoplastic, was not made the subject of discussion in the editorial comment, the sole purpose of which was to emphasize rational conservatism in treatment. For the same reason the work of the correspondent on these growths, with which the writer of the editorial is fully familiar, was not considered. The question of nomenclature of the condition was considered carefully, and "benign giant cell tumor of bone" (perhaps it should have been "growth" in place of tumor) was selected as the most acceptable compromise at this time.—Ed.]

"MAGNESIUM SULPHATE SOLUTION AS AN AID IN ANESTHESIA"

To the Editor:—Under this caption is reported (The Journal, Nov. 5, 1921) a death that "could not be ascribed to any other cause than the anesthetic, and the evidence seemed to point to magnesium sulphate as the 'noxious agent.'" I doubt whether this death was the result of the anesthetic, or that magnesium sulphate was the "noxious agent." This doubt seems to be confirmed by the clinical picture as outlined: "persistent nausea and repeated vomiting, increase in the pulse rate and moderate elevation of the temperature, breathing labored," etc. Laboratory animals, when given a lethal dose of magnesium sulphate subcutaneously, are never distressed by persistent nausea and vomiting, nor is the breathing in man or animals ever "labored." In magnesium sulphate intoxication, after the subcutaneous injection the respiration gradually slows, becomes shallow, and finally ceases; while the heart still beats at a gradually diminishing rate.

The leukocytosis, pyrexia and high pulse rate would indicate an infection and a probable myocarditis with all the changes described, of cloudy swelling, fatty degeneration, etc., with a low output of urine, no doubt secondary to this cardiac insufficiency. Such insufficiency of the heart is a known complication following operation on patients with uterine fibromas.

Hyperglycemia and sometimes glycosuria with lowered carbon dioxid content of the blood follow the administration of any anesthetic. In the course of a study now being carried out on the metabolism of patients after various anesthetics, we have found practically no difference in the increase of blood sugar or the decrease of carbon dioxid between those receiving magnesium sulphate and those not receiving it.

Through the courtesy of the writer of the article, sections of the liver from the case reported were forwarded, and we have been unable to demonstrate anything beyond the usual postmortem findings. The statement that 5.33 gm. of $MgSO_4.7H_2O$ was found in the liver postmortem, above the normal magnesium content, we cannot understand.

The normal magnesium content of the blood and of the liver is in the neighborhood of 3 mg. per hundred cubic centimeters. The highest concentration in the blood that we have found after the administration of 16 gm. (in the fatal case, 12.4 gm. was given) of $MgSO_4.7H_2O$ is 11 mg. per hundred cubic centimeters. One patient receiving 16 gm. died of hemorrhage on the operating table. The liver in this case contained 3.75 mg. of magnesium per hundred grams. The size of the liver in the fatal case is not given; but, if it weighed in the neighborhood of 3,000 gm., it would have to contain 20.8 mg. of magnesium per hundred grams to account for 5.33 gm. of $MgSO_4.7H_2O$ above the normal.

We have never advised the routine use of magnesium sulphate in anesthesia—no anesthetic should be used as a routine—but its use undoubtedly reduces the amount of an inhalation anesthetic. When nitrous oxid and oxygen is used with magnesium sulphate and morphin, it practically eliminates the necessity of ether and provides a quieter and more comfortable recovery, when the patient's energy should be devoted to regaining a normal condition and recovering from the shock of the operation rather than to the elimination of or to repairing the damage from the anesthetic.

James Greenough, M.D., New York.

"IS THE CONTROL OF DIPHTHERIA LEADING TO ERADICATION?"

To the Editor:—I read the article by Dr. Cummings on control of diphtheria with much interest. It brought back to me vividly the introduction in 1893 in New York City of the culture test as a means of detection of diphtheria bacillus carriers. It seemed to me at that time that, if we could definitely differentiate between the carriers of bacilli and those who were free, we could look for the cooperation of the physicians and of the general public in isolating the infected cases. The culture test was applied in New York City during the two years preceding the introduction of antitoxin. The results were somewhat disappointing. The discovery that in addition to the sick and convalescent cases about 2 per cent. of the child population of the city was infected with diphtheria bacilli, that a single clear culture was inadequate to establish the freedom of a throat from bacilli, and that this infected population was changing daily, explained our failure markedly to lessen the number of diphtheria carriers, and convinced us that cultures were of real value only for help in diagnosis and in indicating the source of danger in families and institutions. It seemed to us absolutely impracticable to try to make cultures from all the children every few days, and to have under isolation on the average 20,000 persons.

As with the other respiratory infections in which carriers abound, we realize the impossibility of preventing the general dissemination of the pathogenic micro-organisms throughout a city's population. Dr. Cumming states that if a people is protected by a vaccine there will be a considerable increase in the number of carriers. So far as I know, there is no evidence to support this opinion. There is, on the other hand, a great deal of evidence that pathogenic bacteria living in carriers become gradually attenuated. Cities therefore need not fear that, if diphtheria is reduced to a minimum, they will "become reservoir hosts of bacilli." In New York City we have during the last two years made an especial endeavor to reduce diphtheria. There has been a surprising drop in the deaths from the disease, but an apparent slight rise in the cases. This increase in the reported cases we believe to

be due to the interest aroused, which has caused the reporting of many very light cases. While in 1918 and 1919 there were in each year more than 1,200 deaths, there were but 1,045 in 1920 and but 891 in 1921. We believe we can still further reduce both the morbidity and the mortality from diphtheria.

Dr. Cumming agrees that by intensive work with antitoxin and toxin-antitoxin we can cut the present death rate in half and lessen equally the cases. It seems to me wise to continue to the uttermost methods which have already accomplished so much and bid fair to accomplish much more, rather than to curtail these and wait for what he suggests for "the mass sanitary protection of the populace subconsciously practiced by the people at all times."

WILLIAM H. PARK, M.D., New York.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

STAIN FOR GONOCOCCI — EPINEPHRIN IN LIQUID PETROLATUM

To the Editor:—1. A year or two ago, a stain was described in THE JOURNAL, with technic for gonococcus. The stain was said to be permanent. In what issue can I find the technic and composition of the stain?

2. I also wish to know how epinephrin can be dissolved in liquid petrolatum without separation (as in "Adrenalin Inhalant," P. D. & Co.).

A. H. R. KRUEGER, M.D., Chicago.

ANSWER.—1. Stains were described by:

Burke, Victor: The Gram Stain in the Diagnosis of Chronic Gonorrhea, THE JOURNAL, Sept. 24, 1921, p. 1020.

Israeli, Clara: Demonstration of Capsule-Like Appearance in Staining Gonococci, THE JOURNAL, May 28, 1921, p. 1497.

2. Epinephrin itself is insoluble in liquid petrolatum; it, or one of its salts, may be dissolved in alcohol, and this solution then mixed with castor oil (which is miscible with alcohol). In the case of "Adrenalin Inhalant," the free base epinephrin ("adrenalin") is not used, but instead the hydrochlorid ("adrenalin chlorid"), which first is probably dissolved in alcohol (the preparation contains 13 per cent. alcohol) before being added to the oily base.

EFFECTS OF STERILIZATION ON MAN

To the Editor:—To what extent is the sterilization of man practiced? What effect has sterilization had on its subject: (*a*) on his physical well being; (*b*) on his mental acumen; (*c*) on his moral conduct?

J. E. MINNEY, M.D., Los Angeles.

ANSWER.—Sterilization of mental defectives, habitual criminals and the incurably insane, authorized by legislative enactment in fourteen states of the United States in the decade beginning 1907, is now seldom performed, so far as we know. No study of those so sterilized to determine the possible effects on mind or body has been published.

During the early years of the current century, vasectomy, with incidental sterilization, was widely practiced on elderly men for the relief of the bladder troubles consequent on prostatic obstruction to the exit of urine. Neither mental nor physical effects were regularly registered in these patients, aside from those obviously due to relief from physical distress.

Two years ago Steinach, a Vienna physiologist, published a monograph entitled, "Verjüngung" (rejuvenation). In this he detailed the effects of sterilization on old rats, secured in his earlier work by ligation and section of the vas, in his later experiments by severing the vasa efferentia (coni vasculosi) leading from testis to epididymis—"Steinach's operation." The alleged advantage of this procedure over vasectomy is that it avoids injury to the artery of the vas deferens, the smallest of the three arteries through which the testis receives its blood supply. Steinach states that senile rats submitted to either operation, unilateral as well as bilateral, were rejuvenated mentally, physically and sexually; even that their bald spots grew hair. A Vienna surgeon declares that he has secured similar results in elderly men, including the hair restorer feature, by ligating and severing the vas at its emergence from the globus minor of the epididymis—which operation he adopted after a trial of the Steinach method.

As these statements do not accord with the extensive observation of the effects of vasectomy on elderly men to which reference has been made, the rejuvenating influence of sterilization, on men at least, is yet to be established. The slender hope that the Steinach method might, by avoiding injury to the small artery of the vas, achieve results impossible through vasectomy is shattered by Steinach's statement that identical benefits were secured in rats by the two operations.

The really extensive sterilization of men has been achieved not by the knife, but by the gonococcus; yet no extended study of the effect on mind and body of such unintentional occlusion of the seminal ducts is recorded. The general impression—and it is only that—among urologists seems to be that these men have at least lost nothing in mental, moral or physical integrity.

TERMINAL DISINFECTION

To the Editor:—Does fumigation with formaldehyd gas possess any potential value, and is it not a myth to assume, as is currently believed, that germs attach themselves to all sorts of fomites, from which in turn contagious diseases may be contracted? Bacteriologists say that we have all been wrong in believing any emanation or contagion could attach to clothing. If such is a proved fact, why all the tomfoolery and expense incident to fumigation, unless for its psychologic effect? Does it not seem about time to discontinue fetish worship and exorcism by fumigation of evil spirits in the form of disease germs, as inconsistent with modern ideas of scientific preventive medicine?

T. H. PLEASANTS, M.D., Lewiston, Mont.

ANSWER.—Discussions on this subject appeared in this department of THE JOURNAL, Jan. 15, 1916, p. 209, and March 12, 1921, p. 745. The value of routine fumigation of rooms as a means for preventing the spread of infectious diseases has been questioned of late years. The experience of the health authorities at Providence, R. I., extending over many years, indicates that the abandonment of room disinfection is not followed by any noticeable increase in the number of secondary cases. In New York and in several other cities terminal disinfection has been omitted since 1913 in cases of scarlet fever and in several other diseases. It is now the general belief that the germs of acute infection of the respiratory tract do not survive very long outside the body. The trend of the recent investigation has been to show that the main danger of infection is by direct transmission from convalescents, mild cases and healthy carriers. Better results are likely to be obtained in preventing the spread of most infectious diseases by giving attention to the human sources of infection rather than by resorting to frequent fumigation with a germicidal gas. It is generally accepted as a fact that formaldehyd will destroy bacteria, including the familiar pathogenic germs, on the surfaces of objects in an atmosphere containing at least 60 per cent. of moisture and at a temperature above 50 F. To summarize: There is ground for believing that the share of inanimate objects in spreading disease is not so great as at one time supposed, and that the available evidence indicates that pathogenic bacteria discharged from the body die off rather quickly under the influence of drying, oxygen and sunlight. In view of the fact that the virtual abandonment of routine gaseous disinfection in a number of cities has not been followed by any measurable increase of communicable diseases, terminal disinfection is not being employed unless the materials used with the patient have been considerably soiled by discharges from his body.

Malaria Rate Reduced.—Cooperative antimosquito work in forty-five towns located in ten southern states has reduced the malaria rate from 75 to 90 per cent. according to announcement of the U. S. Public Health Service. Combating of malaria fever in Spain and Dutch East Indies by the government health authorities has been successful by the adoption of a new method. This method is simple. It is based on the principle of refusing to allow sufferers from malaria to remain in the region over night lest they infect the malaria-bearing mosquitoes, which feed only at night. The theory is, of course, that if mosquitoes cannot find a malaria patient to bite they cannot acquire malaria germs and therefore cannot pass it to well persons.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ARKANSAS: Little Rock, May 9. Sec., Reg. Bd., Dr. J. W. Walker, Fayetteville. Sec., Eclec. Bd., Dr. C. E. Laws, 803½ Garrison Ave., Fort Smith. Sec., Homeo. Bd., Dr. Geo. W. Love, Rogers.

GEORGIA: Atlanta, May 31 to June 2. Sec., Dr. C. T. Nolan, Marietta.

IOWA: Iowa City, June 1-3. Sec., Dr. Rodney P. Fagen, Capitol Bldg., Des Moines.

MASSACHUSETTS: Boston, May 9-11. Sec., Dr. Samuel H. Calderwood, 144 State House, Boston.

NEVADA: Carson City, May 1. Sec., Dr. Simeon L. Lee, Carson City.

NEW YORK: Albany, Buffalo, New York and Syracuse, May 22-25. Asst., Professional Examination, Mr. Herbert J. Hamilton, State Education Bldg., Albany.

A ONE HUNDRED BED HOSPITAL

ROBERT J. REILEY
Architect
NEW YORK

The hospital shown in the accompanying floor plans was designed to occupy a large plot of ground facing an avenue running north and south. The length of the building has therefore been placed parallel to the avenue—or, in other words, the building faces east, so that the rooms on the front of the house get the morning sun; those on the rear get the afternoon sun. No room, except the operating room, faces the north.

The requirements called for a general hospital with a total of about 100 beds, arranged in single and double rooms, but without the use of large wards except for children and infants. The nurses' living accommodations were provided for in a separate cottage on the grounds. No dispensary is maintained in connection with the hospital.

The main entrance is at the center of the building, and leads into a foyer off which opens on the right a parlor, and on the left the general office. Directly opposite the entrance is the main stairway, on the left of which is a passenger elevator large enough to accommodate a bed.

On examining the plan, it will be seen that the south wing on the first, or ground floor contains, adjoining the general office, the office of the superintendent of the hospital, the record room and the office of the supervisor of nurses. These rooms form the unit for general administration. At the extreme south end of this floor, quite by themselves but at the same time readily accessible, are the rooms for the resident staff of physicians. A living room and sun porch are provided for them, as well as four bedrooms with bath between each two rooms.

The entrance for ambulance cases is at the rear of the building, where there is an emergency room with bath room and toilet adjoining, from which access may be had to the elevator without passing through the main foyer. The same entrance would be used by the undertaker, and the morgue and necropsy room are placed below in the basement. There is a hood over this entrance so that it cannot be readily seen from the windows of the hospital.

Connected with the emergency room by a private corridor are two wards for the reception of patients, with a nurses' room and utility room centrally placed between them. The reception department is, therefore, entirely separated from the rest of the hospital and forms a self-contained unit.

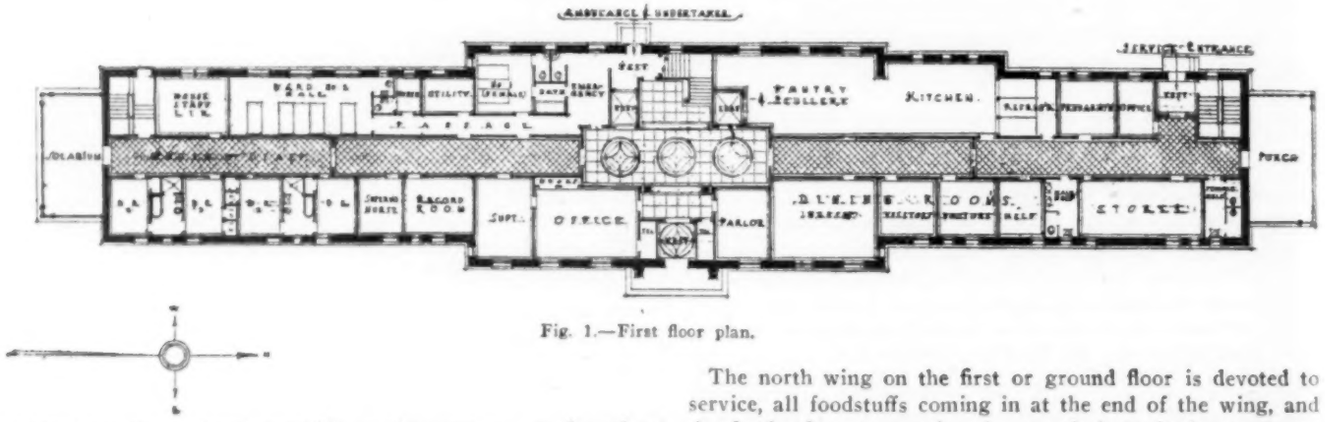

Fig. 1.—First floor plan.

The north wing on the first or ground floor is devoted to service, all foodstuffs coming in at the end of the wing, and the food, after preparation, is served through the pantry at the center of the building to the dining rooms on the first floor or through the service elevator to the upper floors. The kitchen and all its accessories are therefore entirely above ground, receive direct sunlight, and the routing of the food is such as to do away with unnecessary walking back and forth.

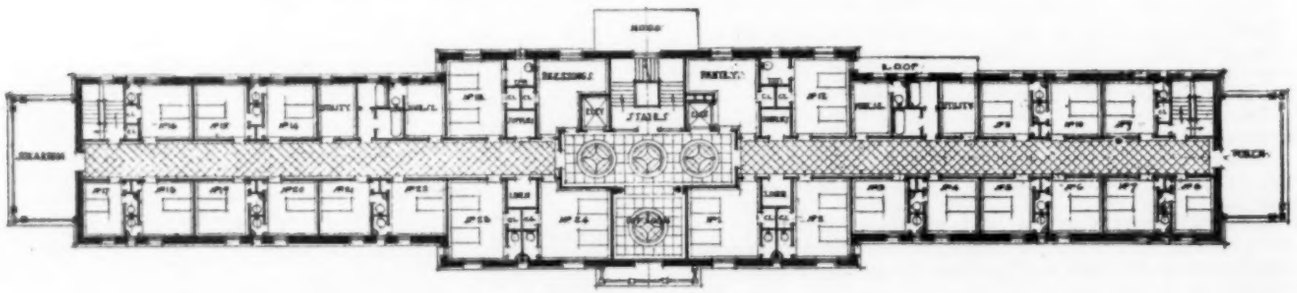

Fig. 2.—Second floor plan.

On the second floor there are two units, one occupying the north and one the south wing of the building, with the features common to the two in the center. Each unit contains nine rooms of one bed each and three rooms with two beds, or a total of fifteen beds in each unit, and thirty on the floor. Opening off each patient's room is a small toilet room which contains a toilet and wash basin with a cabinet above for toilet articles. There is also a small clothes closet in each room.

Each unit also includes a nurses' utility room, centrally placed, two patients' bath rooms and a nurses' room where the records, medicines, etc., will be kept, with a toilet for the nurse adjoining. The push button at the patient's bed flashes a signal in this room, while at the same time it lights a light in the corridor over the bedroom door and in the office of the supervisor of nurses. There is an enclosed stairway or fire tower near each end of the floor, off which opens a maid's closet for brooms, mops, etc. There is a linen closet and

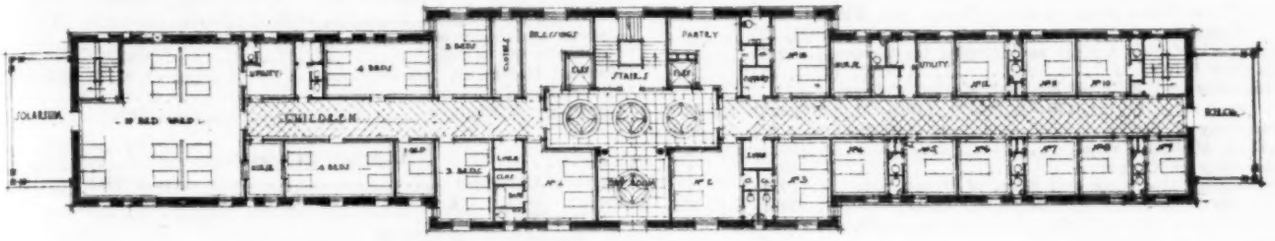

Fig. 3.—Third floor plan.

supply closet in each unit. At the south end the corridor leads to a solarium and at the north end to an open porch.

In the center of the building, where the main stairs and elevator land, is a foyer, opening off of which are the rooms used by both units in common, namely, the day room for patients, the serving pantry, and the room for surgical dressings. As there are doors separating this foyer from the corridors leading to the patients' rooms, the difficulty of maintaining quiet in the corridors is greatly lessened.

At the north end of the third floor is a unit which is identical with the one below it on the second floor; the south end of this floor is devoted to the children. The children's department consists of one ward of ten beds, two wards of four beds each, two wards of three beds each, and an isolation room with one bed, or a total of twenty-five beds. The large children's ward is divided by glass partitions around the beds, and the nurse is so placed that through the glass partitions forming her room she may easily see a large number of the children's beds. In this department there is a large closet, with window, for storing the children's clothes.

On the fourth floor, the north wing contains two main operating rooms, one for clean and one for pus cases, with large skylights facing the north. A smaller operating room adjoins these two. The sterilizing room is adjacent to the operating rooms and is well ventilated so that the heat may be kept out of the operating rooms. The surgeons' wash up and the anesthetizing room are near by, and the next rooms opening on the corridor are the physicians' room, the supply room, the nurses' room and a recovery room.

The roentgen-ray department adjoins the operating department, but opens off the foyer so that it is readily accessible from the elevator. The laboratories are similarly placed, but are on the opposite side of the corridor. The laboratory unit is made up of four rooms, which may in general be designated as the bacteriologic laboratory, the chemical pathology laboratory, the room for the washing of vessels and sterilizing, and the office where the records and supplies are kept.

The south end of the fourth floor is devoted to maternity cases. This department contains six rooms with one bed each and five rooms of two beds each, or a total of sixteen beds. The delivery room with its sterilizing room is placed at the far end of the wing, and is entered through a vestibule to insure quiet. There is also a wash-up room adjoining the delivery room at the opposite end from the sterilizing room.

The nursery for fifteen infants is a cheerful room in the southeast corner of this floor, with bath room adjoining with special slabs for the bathing of infants. There is also a solarium and day-room on this floor for waiting mothers.

In the cellar are located the heating and mechanical equipment plant, the sterilizer for mattresses and clothes, the morgue and necropsy room and the general store rooms. As there is ample ground around the building, as well as solariums and porches on every floor, the roof is not used; but in a more congested city, it could, of course, be employed to good advantage.

It may be said in general that the building has been designed to obtain the maximum of sunlight, to save unnecessary steps for attendants, and to provide a place for every-

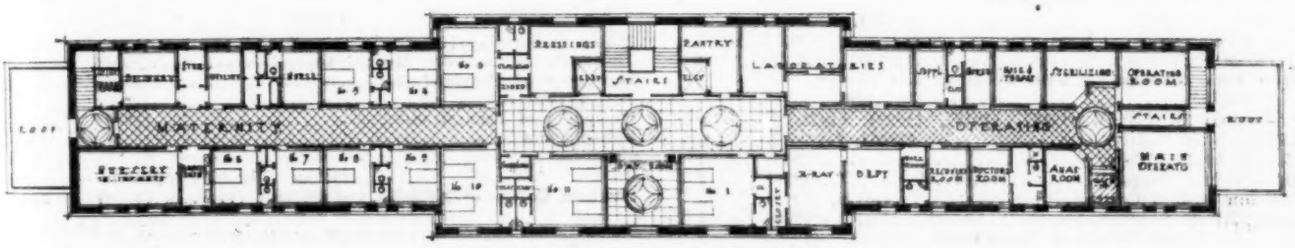

Fig. 4.—Fourth floor plan.

thing while eliminating waste spaces, all with the aim in view of aiding the hospital to accomplish its primary function of caring for the sick.

477 Fifth Avenue.

New York May and June Examinations

Mr. Herbert J. Hamilton, assistant, professional examinations, New York State Board of Medical Examiners, reports the written examinations held at Albany, Buffalo, New York and Syracuse, May 23-26 and June 27-30, 1921. The examinations covered 8 subjects and included 80 questions. An average of 75 per cent. was required to pass. Of the 646 candidates examined, 577, including 2 osteopaths, passed, and 69, including 7 osteopaths, failed. The following colleges were represented:

College	PASSED	Year Grad.	Number Licensed
University of Alabama		(1911)	1
Yale University		(1919), (1920, 2)	3
George Washington University		(1921)	4
Howard University		(1911), (1912), (1920, 2), (1921)	5
State University of Iowa College of Medicine		(1920)	1
University of Louisville Medical Dept.		(1902), (1914)	2
Tulane University		(1921)	1

Johns Hopkins Univ.	(1917), (1919), (1920, 3), (1921, 3)	8
University of Maryland	(1918), (1921, 2)	3
Boston University	(1920)	1
Harvard University	(1918, 2), (1919, 2), (1921, 2)	6
Tufts College Medical School	(1919), (1920)	2
Detroit College of Medicine and Surgery	(1919)	1
University of Michigan Medical School	(1918, 2), (1919, 2)	4
St. Louis University School of Medicine	(1921)	1
University of Nebraska	(1918)	1
Albany Medical College	(1921)	17
Columbia University	(1917), (1919, 5), (1920, 2) (1921, 80)	88
Cornell University	(1919, 2), (1920), (1921, 32)	35
Fordham University	(1918), (1920, 3), (1921, 53)	57
Long Island College Hospital	(1921)	66
New York Homeopathic Medical College and Flower Hospital	(1916, 2), (1918, 2), (1921, 33)	37
New York Medical College and Hospital for Women	(1915)	1
Syracuse University	(1920), (1921, 25)	26
University and Bellevue Hospital Medical College	(1915), (1917), (1919), (1920, 7), (1921, 88)	98
University of Buffalo	(1920), (1921, 57)	58
Eclectic Medical College	(1921)	5
University of Oregon	(1919)	1
Hahnemann Med. Coll. and Hosp. of Philadelphia	(1920)	1
Jefferson Medical College	(1917), (1920), (1921)	3
University of Pennsylvania	(1919), (1920, 4), (1921)	6
University of Pittsburgh	(1919)	2
Woman's Medical College of Pennsylvania	(1920)	1
Vanderbilt University	(1916)	1
Baylor University	(1920), (1921, 3)	4
University of Vermont	(1920, 3), (1921, 3)	6
Medical College of Virginia	(1915)	1
University of Virginia	(1921)	1
McGill University	(1903), (1918), (1919)	3
Queen's University	(1916), (1918, 2), (1919), (1921)	5
University of Toronto	(1918, 2), (1920)	3
University of Budapest	(1907), (1909), (1915)*	3
University of Zurich	(1911)*	1
University of Berne	(1919)*	1
Osteopaths		2

FAILED

University of Colorado	1902)	1
Howard University	(1916), (1920)	2
Kansas Medical College, Topeka	(1903)	1
College of Physicians and Surgeons	(1921)‡	1
University of Maryland	(1915)	1
Harvard University	(1898), (1905)	2
Tufts College Medical School	(1916), (1920), (1921)	3
University of Michigan Medical School	(1910)	1
Columbia University	(1920), (1921, 2)	3
Cornell University	(1921)	1
Fordham University	(1916), (1921, 7)	8
New York Homeopathic Medical College and Flower Hospital	(1914) (1915, 2), (1916), (1917), (1918), (1920), (1921, 2)	9
University of Buffalo	(1920), (1921, 2)	3
Eclectic Medical College	(1915)	1
University of Oregon	(1920)	1
Jefferson Medical College	(1912), (1913)	2
University of Pennsylvania		3
Woman's Medical College of Pennsylvania	(1918)	1
Vanderbilt University	(1919), (1920, 3)	4
Baylor University	(1921)	1
McGill University	(1907), (1918), (1920, 2)	4
Bohemian University of Prague	(1920)*	1
University of Vienna	(1906),* (1913),* (1918)*	3
University of Budapest	(1912),* (1913),* (1919)*	3
University of Florence	(1907)	1
University of Berne	(1910)	1
Osteopaths		7

Mr. Herbert J. Hamilton also reports that from July 18 to Dec. 28, 1921, 34 candidates were licensed by endorsement of credentials. Three candidates were licensed on diploma. Two candidates were licensed on recommendation of the New York State Board of Medical Examiners, and one candidate's license was issued on recommendation of the Board of Regents. The following colleges were represented:

College	ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
University of Colorado		(1914)	California
College of Physicians and Surgeons, Chicago		(1910, 2)	Illinois
Dunham Medical College		(1902)	Illinois
Northwestern University		(1920)	Illinois
Rush Medical College		(1904), (1917)	Illinois
College of Physicians and Surgeons, Keokuk		(1873)**	
State University of Iowa Coll. of Homeo. Med.		(1898)†	Iowa
University of Maryland		(1917)	Delaware
Harvard University		(1915)	Mass.
University of Michigan Medical School		(1916)	Michigan
University Medical College of Kansas City		(1913)	New Jersey
Albany Medical College		(1879)**	
Fordham University		(1917)	Illinois
Eclectic Medical College		(1920)	Ohio
University of Oklahoma		(1915)	Kansas
University of Oregon		(1904)	Oregon
Hahnemann Med. Coll. and Hosp. of Philadelphia		(1916)	New Jersey
Jefferson Medical College		(1890)	Virginia
Medico-Chirurgical College of Philadelphia	(1907) Pennsylvania, (1913) Utah	(1906)	New Jersey
University of Pennsylvania		(1919)	Ohio
Baylor University		(1916)	Utah
University of Texas		(1914)	Texas
University of Vermont		(1914)	Vermont
Medical College of Virginia		(1904)	Virginia
University of Virginia		(1917), (1918), (1919)	Virginia
German University of Prague		(1904)*	Austria
University of Vienna		(1883)*	Illinois
National University, Athens		(1894)* Ohio, (1897)*	Wisconsin
University of Geneva		(1912)*	Switzerland
University of Kharkov		(1897)*	Russia

College	LICENSED ON DIPLOMA	Year Grad.	Number Licensed
Harvard University		(1885)	1
Medical Department of the University of the City of New York		(1888), (1891)	2

* Graduation not verified.

‡ A report from the dean of the University of Maryland states that this candidate did not graduate from the College of Physicians and Surgeons or any of the other medical schools which merged with that of the University of Maryland.

** These candidates were licensed on recommendation of the New York State Board of Medical Examiners.

† This candidate's license was issued on recommendation of the Board of Regents.

South Carolina November Examination

Dr. A. Earle Boozer, secretary, South Carolina State Board of Medical Examiners, reports the oral, written and practical examination held at Columbia, Nov. 8-10, 1921. The examination covered 17 subjects and included 90 questions. An average of 75 per cent. was required to pass. Of the 10 candidates examined, 9, including 2 chiropractors, passed, and 1 candidate failed. Four candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Emory University		(1921)	76.5, 84.6
University of Louisville Medical Dept.		(1907)	80.5
University of Maryland		(1920)	87.5
Boston University		(1920)	78.9
University of Pennsylvania		(1920)	93, 94.2
Chiropractors			75.1, 83.6

FAILED

Southern College of Medicine and Surgery		(1914)	71.8

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Georgia		(1909)	Georgia
Johns Hopkins University		(1917)	Maryland
Woman's Medical College of Pennsylvania		(1912)	N. Carolina
University of the South Medical Department		(1909)	Maryland

Official Report on Occurrence of Leprosy in Bosnia.—From a report of the Bosnian and Hertsegovinian Health Commission sent out by the ministry of public sanitation in Belgrade to study the occurrence of leprosy in the mentioned country, one can gather that eighty-two undoubted cases of leprosy were officially known in Bosnia at the end of last year, being seven less than in 1898. The Narenta district (large river crossing the land) is the only one in which the disease is endemic, and we are promised a more strenuous search for undiscovered cases, in accordance with the resolution of the International Leprosy Committee. In the neighboring countries, as Albania, Macedonia and Montenegro, the number of leprosy cases far exceeds that in Bosnia; however, in these provinces there is no organization existing for the recording and controlling of the cases. The Belgrade government, which grasped public sanitation with a firm hand, will surely extend its activity also toward these places, and will have all leprosy patients treated in the specially built leprosy hospital in Sarajevo.

Medical Economics

BOND RATINGS—RATINGS ON CERTAIN ISSUES

To the Editor:—The letter on "Safe Investments" (THE JOURNAL, March 18, p. 836) is valuable. Disinterested, reliable investment advice is much needed by physicians.

1. Do you consider the bond ratings given in Moody's Analysis a safe guide to buy bonds on? And do you know of any other system of bond ratings that is reliable?

2. Kindly give me your ratings as to safety of principle of the enclosed list of bonds, and also their present market value.

Please omit my name. ————, Wisconsin.

ANSWER.—If a man were to confine his selection of bonds to those which are rated A, Aa or Aaa in Moody's Manual of Investments, he would probably be following a safe plan.

However, these ratings should be taken from only the latest editions of Moody's manual, because such ratings change from time to time. There are bonds which would have been rated Aaa a few years ago which now are rated below A.

In order to carry out the best possible plan of investment, one should purchase securities from some reliable bond house which is able and willing to keep one currently posted relative to any change in the conditions of the borrowing companies whose bonds one owns. One would probably be safe in doing business with this kind of a bond house to accept recommendations of bonds which Moody might rate lower than A.

Listed below are the bonds mentioned by our correspondent. We are indicating a rating which, we believe, is fair for each security, and are also giving the approximate market price of each as of March 30.

Rating				Market
Very strong	Chicago Union Station Co	6½s	July, 1963	112¾-114¾
Good	Amour & Co.	7s	July, 1930	102¾-103
Fair	Libby, McNeil & Libby	7s	May, 1931	99¾-100
Good	Anaconda Copper Mining Co.	7s	Jan., 1929	102¾-103
Fair	Columbia Gas & Electric Co.	5s	1927	90½- 91½
Strong	Province British Columbia, Can.	6s	Apr., 1926	99¼-100¼
Strong	Province Alberta, Canada	6s	July, 1926	99¼-100¼
Strong	Province Ontario, Canada	5½s	Aug., 1924	98 - 98¾
Strong	Gov. Switzerland	8s	1940	117 -118
Strong	Gov. French Republic	8s	Sept., 1945	103¾-107¼
Strong	Kingdom of Norway	8s	Oct., 1930	111½-112
Strong	Kingdom of Belgium	7½s	June, 1945	108½-109

This list of securities is a very strong one, and the only recommendation which we would add is that one should seek a little more diversification of investment. More than half of this list is in foreign government obligations, and these should remain satisfactory investments to their respective maturities. We believe, however, that it would be sounder practice to diversify one's holdings in about these proportions:

Railroad bonds	25%
Industrial	25%
Public utility bonds	25%
Foreign government bonds	25%

Our correspondent owns three short maturities which are selling near par, so that it would be practicable to make such a readjustment at this time.

Hard Roads, Noise and Health.—Main roads, as ordinarily constructed—particularly the asphalt ones—soon get into a faulty condition, the heavy motor traffic causing ruts and holes which have a damaging effect on the vehicles and are the cause of much noise, particularly if the vehicles are badly worn. Rubber roads, if found to be practicable for heavy traffic, would for important city roads be a perfect solution of the problem; they would be practically noiseless, and would increase the life of all vehicles and of horses using them.—H. J. Spooner, *Nation's Health* **4**:156 (March) 1922.

Book Notices

ARTERIAL SCLEROSIS. A Consideration of the Prolongation of Life and Efficiency after Forty. By Louis Faugères Bishop, M.A., M.D., Sc.D., Professor of the Heart and Circulatory Diseases, Fordham University School of Medicine, New York City. Cloth. Price, $4.25. Pp. 383, with 33 illustrations. New York: Oxford University Press, 1921.

The subject of arteriosclerosis is of particular interest and moment to all practicing physicians. It was hoped that this contribution would shed considerable light on the problem, but, on the contrary, it rewards the reader with nothing but a poorly organized and poorly written review of much that has been published up to 1914—nothing more recent. In fact, the book is a reprint of a 1914 "first edition." There is an incredible amount of repetition throughout the entire volume. The author offers no new scientifically proved facts. His own contribution consists of a few scattered case reports, and the formulation and attempted support of an hypothesis as to the cause and effect of arteriosclerosis by borrowing liberally from the published works of others and by an inconceivable amount of mental acrobatics. The two leading ideas in the book are autointoxication, or accidental sensitization to particular proteins in causation, and the low-protein diet in treatment. To quote:

> My own belief is that arteriosclerosis arises when the cells of the body become sensitive to particular proteins, and that these proteins create irritation, something in the nature of a mild anaphylaxis; and if this is continued over a long period of time the result is changes in structure which constitute the disease known as arteriosclerosis. . . . The key to the riddle of arteriosclerosis I believe lies in just this sensitization of individuals to particular proteins, or, to be more specific, to split products of particular proteins.

Next to Chapter XIV, which is a symposium of the opinions of many leading American physicians, the chapter on cheese is the most readable and valuable in the treatise. This chapter occupies more than thirty-eight pages, one tenth of the book, and describes the various kinds, why they were given the names they have, their composition and digestibility, the manner of preserving cheese in the home, the manner of serving cheese, numerous cheese dishes, etc.

THERAPEUTIC IMMUNIZATION IN ASYLUM AND GENERAL PRACTICE. By W. Ford Robertson, M.D., Pathologist to the Scottish Asylums. Cloth. Price, $4. Pp. 278. New York: William Wood & Company, 1921.

This book is written by an enthusiastic supporter of vaccine therapy. The author devotes considerable space to explaining why vaccines have fallen into general disfavor. He points out in a convincing way many common errors in the application of therapeutic immunization. Far less convincing are the chapters dealing with the evidence favoring vaccine therapy. This is especially true of the treatment of such diseases as neurasthenia, exophthalmic goiter, and disseminated sclerosis with the diphtheroid bacillus vaccines which he advocates. The author believes that pernicious anemia is caused by an "intestinal pneumococcus infection," and that certain forms of insanity, including manic-depressive insanity and dementia praecox, are caused by focal infections. He describes satisfactory results in treating these conditions with vaccines. The bacteriologic technic described in the book has no advantages over that commonly employed in this country.

DIE CHIRURGIE DER PERIPHEREN NERVENVERLETZUNGEN MIT BESONDERER BERÜCKSICHTIGUNG DER KRIEGS-NERVENVERLETZUNGEN. Von Privatdozent Dr. Walter Lehmann, Assistent an der Chirurgischen Universitätsklinik Göttingen. Mit einem Geleitwort von Professor Dr. Rudolf Stich. Paper. Price, 104 marks. Pp. 271, with 69 illustrations. Berlin: Urban & Schwarzenberg, 1921.

This monograph may justly be considered a complete treatise on the subject of peripheral nerve injuries. Casual inspection of the text might lead the surgeon to believe that the subject matter is bulky and unnecessarily padded for a phase of surgery the clinical data of which could be very briefly stated. The author, however, has not limited himself to diagnosis and technic. In the first part, there is presented a consideration of sensory and motor injuries, neuralgias, paresthesias, vasomotor and trophic changes, etc. The subject of pathology, both nerve and associated bone and blood

vessel lesions, is treated in detail. Considerable attention is devoted to the subject of differential diagnosis between complete and partial lesions and between nerve and musculotendinous injury. In the second part, prognosis and therapy are considered. The author feels that each nerve has its own prognosis; he leans toward the conservative in operative indications, but illustrates by numerous collections of statistics the danger of overlooking a complete lesion. A general anesthetic and free incision are considered essential. Under technic, nerve suture, flaps, tubulization, neurolysis and other phases are considered. The last part of the work deals with the special considerations of individual nerves and plexuses. There is an extensive bibliography containing hundreds of references. The work is illustrated by colored anatomic plates, and by photographs illustrating clinical phases. It is evidently the result of extensive personal experience.

RADIOGRAPHIC TECHNIQUE. By T. Thorne Baker, A.M.I.E.E. Cloth. Price, $3.50. Pp. 196, with 62 illustrations. New York: William Wood and Company, 1921.

This small work really is an exposition of the photochemistry of roentgen-ray work. There is very little on roentgenographic technic per se. So far as it treats of photochemistry, the book is an aid to technicians whose working knowledge of this particular feature of the work is more or less vague. Those portions of the book that are confined strictly to photographic chemistry are well written. Related phases of roentgen-ray work are superficially covered by the text. The entire work is decidedly English in its point of view and in practice and, to the American roentgen-ray worker, many items will seem to be behind recent progress in the roentgenographic art. For example, the author expresses doubt that the roentgen-ray film will find much favor over the glass negative for general use. This is at variance with American practice, in which films have largely replaced glass negatives in modern roentgen laboratories. The chapters on apparatus are certainly far behind progress in America, and contain illustrations of apparatus no longer in use in this country. Among other items, the interrupterless transformer is not explained, a serious omission if this book is to prove valuable to American technicians. The work describes gas tubes in the regular chapters, while the Coolidge tube is explained in an appendix. As most progressive roentgen-ray operators have discarded the gas tube for the Coolidge tube, this manner of covering the subject cannot be regarded as satisfactory. A number of practical points regarding dark room equipment and illumination are given.

A FRENCH-ENGLISH DICTIONARY FOR CHEMISTS. By Austin M. Patterson, Ph.D. Cloth. Price, $3. Pp. 384. New York: John Wiley & Sons, Inc., 1921.

This work may be considered as a companion to the "German-English Dictionary for Chemists" compiled by the same author. As indicated in the title, the volume is intended mainly for chemists, but it will find friends in the allied sciences as well. The introduction contains a general discussion on technical nomenclature, and those who are somewhat deficient in French may obtain considerable help from the conjugations and discussion of feminine and plural forms. The vocabulary is enriched by the inclusion of phrases: thus, under *papier* there are 137 phrases, beginning with *papier à calquer* (tracing paper) and ending with *papier volant* (loose sheet of paper). The book is well arranged and of convenient size. Workers in the laboratory sciences will appreciate the value of this dictionary as an aid in making French literature more available.

THE ANATOMY OF THE HUMAN ORBIT AND ACCESSORY ORGANS OF VISION. By S. Ernest Whitnall, M.A., M.D., B.Ch., Professor of Anatomy, McGill University, Montreal. Cloth. Price, $12. Pp. 428, with 195 illustrations. New York: Oxford University Press, 1921.

There is room, even in the best appointed ophthalmologic libraries, for this timely textbook, for it gathers into comparatively small volume virtually all of the authoritative data, both new and old, pertinent to the subject. The illustrations are, for the major part, photographs of actual dissections, and are excellently reproduced. The first portion is devoted to the osteology of the orbit. In marked contrast to many similar works, lengthy and tiresome tables of comparative measurements are omitted. It is noticeable that the old method of trying to teach in two dimensions alone has been replaced by three dimension activity. The second portion comprises the description of the contents of the orbit, especial stress being laid on the muscles and the orbital nerves, structures that are usually treated in a most stepmotherly manner. It is to be regretted that the author's investigations did not cover the lymphatic drainage of the orbit, a subject that he is forced to dismiss with a few lines. In the third portion, the cerebral prolongation of the optic nerve tract is discussed at not too great a length. The book closes with a bibliography from 1900 to date. The volume, as a whole, is an interesting presentation of what is at best a very dry subject.

NEOPLASTIC DISEASES. A Treatise on Tumors. By James Ewing, A.M., M.D., Sc.D., Professor of Pathology at Cornell University Medical School. Second edition. Cloth. Price, $12, net. Pp. 1054, with 514 illustrations. Philadelphia: W. B. Saunders Company, 1922.

Careful examination of the second edition strengthens the favorable opinions expressed in the review of the first edition. It is hoped, incidentally, that in the next edition the author will consider the effects of the roentgen ray and radium on tumors, at least to the extent of discussing the morphologic changes induced by irradiation, with special reference to microscopic diagnosis. In the future the subject of experimental tar cancer will require more extended discussion also, if the present activities in that line continue. It is probable, too, that the question of heredity of human cancer may demand a somewhat more objective consideration. Unquestionably this is the best book on tumors now available. It is an ornament of rare distinction to American scholarship and literature.

HEALTH EDUCATION AND THE NUTRITION CLASS. A Report of the Bureau of Educational Experiments. Descriptive and Educational Sections by Jean Lee Hunt. Studies of Height and Weight and Mental Measurements by Buford J. Johnson, Ph.D. Report on Physical Examinations 1919-1920 by Edith M. Lincoln, M.D. Cloth. Price, $3.50. Pp. 281, with illustrations. New York: E. P. Dutton & Company, 1921.

This book is a report by the Bureau of Educational Experiments of work carried on at Public School 64, Manhattan. The work undertaken was extensive and thorough, and the problems of the nutrition worker are well discussed. The importance of seasonal variation in growth is well emphasized. Of extreme value, the authors state, is the necessity of close cooperation between the nutrition worker and the family. The methods by which this was brought about are given in detail. The appendix has to do with data concerning individual record sheets and specimen weight charts.

INFANT FEEDING. By Clifford G. Grulee, A.M., M.D., LL.D., Associate Professor and Acting Head of the Department of Pediatrics at Rush Medical College. Fourth edition. Cloth. Price, $4.50 net. Pp. 397, with 37 illustrations. Philadelphia: W. B. Saunders Company, 1922.

Pediatrics is passing through a phase of experimentation The European school has lost its prominence and leadership, and American pediatrics is developing independently of European origins. Dr. Grulee has brought up to date the literature referred to in his textbook, and calls special attention to Marriot's work on intoxication and to Pirquet's system of feeding. Neither of these methods has as yet been generally accepted, and the author wisely presents the matter without attempting to predict what the future will retain.

BUILDING HEALTH HABITS. By M. V. O'Shea, Professor of Education, The University of Wisconsin, and J. H. Kellogg, Superintendent of the Battle Creek Sanitarium. Cloth. Price, 80 cents. Pp. 280, with illustrations. New York: The Macmillan Company, 1921.

KEEPING THE BODY IN HEALTH. By M. V. O'Shea, Professor of Education, The University of Wisconsin, and J. H. Kellogg, Superintendent of the Battle Creek Sanitarium. Cloth. Price, 88 cents. Pp. 311, with illustrations. New York: The Macmillan Company, 1921.

The last edition of this series appeared in 1915. Its purpose is to present to elementary school pupils the fundamental facts regarding health and hygiene. The booklets are nicely printed and well adapted for their purpose, but are suitable only for the upper grades. The style is not such as to appeal to any one below the age of 12 or 14 years.

Medicolegal

Sufficient Evidence and Reason for Divorce

(Hines v. Hines (Iowa), 185 N. W. R. 91)

The Supreme Court of Iowa, in affirming a decree in favor of the plaintiff, says that it was the usual story of a marriage in which cruelty was charged by the wife against the husband, predicated on compulsory excessive sexual intercourse, which it was alleged injured her health and rendered her life burdensome and intolerable. The primary contention of the defendant was that the evidence of the plaintiff was not sufficiently corroborated to warrant a decree of divorce. The Iowa statute provides that the allegations of the petition must be established by competent evidence, and that no divorce shall be granted on the testimony of the plaintiff alone. In this case the record disclosed that the plaintiff when she left the defendant was in poor health; that thereafter and during her absence from him she regained her health; that prior to leaving her home she consulted a physician, and he testified that she was afflicted and suffering with vaginitis and general female trouble; that she did not respond to his treatment while living with her husband, and that he advised her to go away for a time, although not intending to recommend a permanent separation. May it be said that these facts were not corroborative in this case? A wife has the right to protect her health and her life from the ungoverned lust of her husband by seeking a divorce. Such an action presents as strong a case for relief as when she flees from his intolerable cruelty inflicted by other means. It is personal violence under another name, and cannot be justified under the claim of the exercise of his marital rights. These rights are reciprocal, and exist on the part of the wife as distinctly as on the part of the husband. It is true that marital rights involve marital duties, and include the duty of forbearance on the part of the husband at the reasonable request of the wife, as well as the duty of submission on the part of the wife at the reasonable request of the husband. In the decision of such matters, a court must take into consideration the duty of the husband as well as the duty of the wife. Unduly to emphasize either would be manifestly unjust.

Malpractice Found in Treatment of Oblique Fracture

(Donnelly v. Packard (Wis.), 185 N. W. R. 164)

The Supreme Court of Wisconsin says that the plaintiff, a laborer, aged 46, who had previously sustained a fracture of the femur of the right leg which resulted in a shortening of the leg, on Sept. 26, 1918, suffered an oblique fracture of the upper third of the femur of the left leg. He was taken to a hospital, where a physician who had temporarily placed the leg in a splint asked the defendant, who had been called to attend the plaintiff, whether it would not be a good idea to perform an open operation on the leg and the two fragments of bone, so as to shorten them, and then reattach the upper and lower surfaces of the bones by means of a plate and other appliances used in operations of that nature. To this inquiry, according to the plaintiff, the defendant made no reply, and the method suggested was not pursued. After setting the bone, the defendant applied a Buck's extension, the limb being placed in a splint surrounded by bandages. After the lapse of about ten days, the plaintiff expressed his regret to the defendant that the suggestion of an open operation and the use of a plate had not been followed, and inquired whether any other method could then be pursued which might result in the shortening of the left leg so as to compensate for the shortening in the right one. The defendant said, according to the plaintiff's testimony, that he could take the weight off, meaning the Buck's extension, and let the injured surface of the lower fragment run over the injured surface of the upper fragment. The extension was removed; but, it was said, the defendant did nothing to hold the injured surfaces in proper position, except to put the limb into a pneumatic ambulatory splint, which was made for the purpose of allowing the patient to be moved, as, about October 21, it was thought best, on account of the prevalence of influenza, to have him removed from the hospital to his home. The defendant testified that traction was applied when the ambulatory splint was used, but that was denied by both the plaintiff and his wife. The plaintiff was conveyed to his home, a distance of about 14 miles, over rough country roads, in a truck automobile, unaccompanied by the defendant or any other physician or a skilled attendant. Nor, according to the plaintiff, did the defendant visit him for about two weeks; when, on examining the limb, he said he ought to have attended to it before; that it was in a pretty bad condition. Thereafter he did not visit the plaintiff until about Jan. 1, 1919. As the result of the injury, the left leg showed a very marked bow, and its condition was such as to disable the plaintiff from doing any considerable amount of walking or work, and to cause him a great deal of pain; and it was practically undisputed that the condition so detailed would remain permanent.

A physician and surgeon of large experience in the treatment of fractures pronounced the results achieved by the defendant as a fair average produced by the ordinary, skilful physician, and stated that out of 100 similar cases treated by physicians 40 per cent. would produce results substantially like those in this case. There was, too, a sharp conflict in the testimony as to whether traction was removed before the adhesion of the bones; whether traction was applied when the Buck's extension was removed and the ambulatory splint was used; whether the bones had united on their sides, or on the broken surfaces; and whether the condition manifested by the bowing was due to the adhesion of the bones, or was the result of conditions that came about after January 1, when the plaintiff was advised and did attempt to resume the use of the injured limb.

The issues presented were submitted to a jury, which found that the defendant in setting the fracture did not bring the broken surfaces of the bone together and maintain them in apposition during the healing period; that he failed to exercise that degree of skill and care ordinarily exercised by physicians in good standing in that locality, in so treating the fracture; and that his failure to use care and skill was the proximate cause of the condition of the plaintiff's left thigh. The jury fixed the plaintiff's damages at $5,000; but the court reduced the amount to $3,764.95, on account of compensation which the plaintiff had recovered under the workmen's compensation act from his employer based on the alleged malpractice. The judgment is affirmed on the ground that there was ample testimony to prove that the defendant failed to exercise that degree of skill and care ordinarily exercised by physicians in good standing in the locality of his residence, and that such failure was the proximate cause of the plaintiff's condition.

Proof of Hernia and Other Injuries

(Buncle v. Sioux City Stockyards Co. (Iowa), 185 N. W. R. 139)

The Supreme Court of Iowa is of the opinion that the showing made by the plaintiff with regard to his having sustained a hernia while climbing on a high fence, although he did not consult a physician for two weeks and a half after that, was sufficiently vague and uncertain to make final the finding of the arbitration committee and the industrial commissioner that he had not met the requirements of the burden of proof to an extent justifying the award of compensation under the workmen's compensation act. But it is not true, as a matter of law, the court says, that to justify a finding of compensable injury by hernia or other bodily misfortune the claimant must be corroborated, or that the claimant broke down and was compelled to cease work; or that he reported to his employer immediately; or was compelled to seek medical assistance. Such circumstances are, of course, admissible in testimony, and may be considered with other facts and circumstances in arriving at the truth as to the alleged fact of injury and of its nature and extent; but the absence of any one or more or even of all of these so-called tests is not necessarily conclusive against the claimant. No court is so letter-perfect in human anatomy or so accomplished in surgical or medical

lore that it can say that every case of traumatic hernia produces immediate prostration. On the contrary, notwithstanding the learning of the books and the dogmatic declarations of expert witnesses, it is a matter of common knowledge that thousands of men suffer from inguinal hernia, and that many of them are able to point to the time and place at which it developed and the physical strain or exertion which occasioned it, and yet were never prostrated by it. It is doubtless true that in many cases the lesion takes place from the gradual enlargement of the inguinal rings, and is not traceable to any accident or unnatural strain or exertion; and that much difficulty exists in determining whether in a given case the hernia, if one is found, is of a compensable character. This difficulty justifies the arbitration committee and the commissioner in closely scrutinizing the testimony and satisfying themselves as nearly as possibly as to the origin of the alleged injury, in order that they may do equal and exact justice between the parties, but the rule applicable is the same as in other cases and requires only a preponderance of evidence.

Disease Caused by Injury—Total and Continuous Disability of Surgeon

(Rathbun v. Globe Indemnity Co. (Neb.), 184 N. W. R. 903)

The Supreme Court of Nebraska, in affirming a judgment in favor of the beneficiary of an accident insurance policy issued to a physician and surgeon, says that the insured, in alighting from his automobile, either from a misstep or slipping on ice on the pavement, fell, striking his right hip on the pavement or on the curb. For the next two or three days, he suffered severe pain in the hip. Then he had a respite of two weeks from any conscious ill effects from the injury, during which time he attended to the most, if not all, of his professional duties as a surgeon. At the end of that time, the pain and lameness returned and continued with increasing severity for about two months and a half, during which time he performed some of his professional labors, but under more or less stress of pain and discomfort, being compelled to have his assistants do many things in the course of operations on patients that theretofore he had always been accustomed to do himself. After that, he gave up any attempt to perform any duty, because of pain and suffering from the injury, which increased in severity until about six months after the accident he died of sarcoma involving the hip joint, which the evidence conclusively showed was the direct and immediate result of the accident.

The insurance policy contained this special provision: "This policy does not cover . . . loss resulting from bodily injury caused or contributed to, directly or indirectly, by disease, or vice versa." The defendant interpreted the "vice versa" provision to mean, "This policy does not cover . . . loss resulting from disease caused or contributed to, directly or indirectly, by bodily injury," and contended that this prevented a recovery on the policy. But it seems to the court that a theory which inevitably leads to such damaging results to the insured as this would is so unreasonable, absurd and destructive of the very object and purpose of the contract, as well as the manifest intention, or at least supposed manifest intention and understanding of the parties who entered into it, that such a construction cannot be allowed; and, if the language of the provision is susceptible of no other construction, that the provision itself cannot stand. Wherefore, being of the opinion that in this instance there was no alternative, the court holds the "vice versa" clause inoperative and of no effect.

Another point required to be determined by a clause in the policy and the contention of the defendant, was as to when one insured sustaining an injury through accident may be said to be rendered "totally and continuously unable to transact all business duties from date of accident." Surely the defendant would not contend that it was entitled to an absolutely literal construction of the clause in question, and that the performance, by the insured, of anything whatsoever in the line of his business, or professional duties, no matter how trivial, or under what circumstances it may have been performed, would bar recovery. Such a claim would be unreasonable, even absurd. To illustrate: Suppose the insured had been confined to his bed, unable to rise therefrom because of the severe pains and lameness he was suffering from the injury, yet under these conditions he might still be able to consult with and prescribe for patients, and even perhaps have dressed a wound, and suppose that he had done so, would the defendant or any one say that for that reason he was not a subject of "total disability," under a proper and reasonable construction of those words in the policy? The court thinks no one could contend for a thing so unreasonable. Recurring to the two weeks in which the insured suffered little or no pain and there was little or no interruption in the prosecution of his ordinary professional labors, the defendant contended that that fact itself conclusively showed that he was not "continuously unable to transact all business from date of accident," and precluded a recovery; but this point also, the court holds, could not be sustained. When the real nature and extent of injuries do not at once reveal themselves, but the injured part apparently lies dormant for a while, it cannot be said that the injury is not continuous and from the date of the accident, nor can it fairly or justly be said that the disability is not continuous and from the date of the accident, because the injured party enjoys a brief respite from pain and suffering; and, under the circumstances stated, to hold that a brief respite during which the insured was able to transact the most, if not all, of his ordinary business should bar a recovery seems neither reasonable nor just.

Father Separated from Mother Liable for Medical Services for Child

(Von Roeder v. Miller (N. Y.), 190 N. Y. Supp. 787)

The Supreme Court of New York, Appellate Term, First Department, says that this action was brought by a physician to recover from the father of a minor child the reasonable value of medical services rendered to the child. The defendant admitted the rendition of the services and their reasonable value, but set up as a defense a separation agreement between himself and the mother of the child, contending that, because of such agreement and his compliance therewith, the plaintiff was not entitled to a recovery of a judgment against him. The plaintiff knew that the parents were living apart, but had no knowledge of the terms of the agreement under which they separated. A judgment was entered in favor of the defendant, dismissing the complaint on the merits.

In reversing that judgment, with $30 costs, and ordering a judgment for the plaintiff physician, with costs, the appellate term says that the liability of the father for the furnishing of necessaries to an infant child as a primary one is well settled. Not alone was the obligation existent at common law, but it has found concrete expression in the statutes of New York State. The obligation is a natural one, and, if the parent neglects the duty, any other person who supplies such necessaries is deemed to have conferred a benefit on the delinquent parent, for which the implied promise to pay is raised on the parent's part.

Furthermore, the court thinks it is not doubted that under no circumstances can such a parent by mere agreement with a third person—in this case the mother, by force of a separation agreement—discharge his liability for the primary obligation to supply necessaries to his infant children as fixed by the law. The agreement is binding only on those whose volition and execution gave it birth. In no wise can it diminish the liability of the parent to infant children, who were not and could not become parties thereto. By contracting with his wife, the defendant was unable to discharge his obligation to his child. That remained unimpaired. It was urged from a line of cases that the presumption that the wife is authorized to pledge the husband's credit ceases when they are living apart; but in each of those cases the articles furnished were for the use of the wife, and the liability turned on whether the husband had provided adequate means for her support, and no question of liability for necessaries furnished to infant children was involved.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, St. Louis, May 22-26. Dr. Alex. R. Craig, 535 N. Dearborn St., Chicago, Secretary.

Alabama, Medical Association of the State of, Birmingham, April 20-23. Dr. H. G. Perry, Montgomery, Secretary.
American Association for the Study of the Feebleminded, St. Louis, May 18-20. Dr. R. W. Baker, Laconia, N. H., Secretary.
American Association of Genito-Urinary Surgeons, Washington, D. C., May 2-3. Dr. R. F. O'Neil, 374 Marlborough St., Boston, Secretary.
American Ass'n of Pathologists and Bacteriologists, Washington, D. C., May 2-4. Dr. H. T. Karsner, Lakeside Hospital, Cleveland, Secretary.
American Association of Physicians, Washington, D. C., May 2-4. Dr. Thomas McCrae, 1627 Spruce St., Philadelphia, Secretary.
American Bronchoscopic Society, Washington, D. C., May 3. Dr. Samuel Iglauer, 701 Race St., Cincinnati, Secretary.
American Climatological and Clinical Association, Washington, D. C., May 2-4. Dr. Arthur K. Stone, Framingham Center, Mass., Secretary.
American Dermatological Association, Washington, D. C., May 2-4. Dr. Udo J. Wile, University of Michigan, Ann Arbor, Secretary.
American Gastro-Enterological Association, Washington, D. C., May 1-2. Dr. Arthur F. Chace, 525 Park Ave., New York, Secretary.
American Gynecological Society, Washington, D. C., May 1-3. Dr. A. H. Curtis 104 S. Michigan Ave., Chicago, Secretary.
American Laryngological Association, Washington, D. C., May 1-3. Dr. George M. Coates, 1811 Spruce St., Philadelphia, Secretary.
American Laryng., Rhinol. and Otological Society, Washington, D. C., May 4-6. Dr. W. H. Haskin, 40 E. 41st St., New York, Secretary.
American Neurological Association, Washington, May 2-3. Dr. Frederick Tilney, 22 E. 63d St., New York, Secretary.
American Ophthalmological Society, Washington, D. C., May 1-3. Dr. T. B. Holloway, 1819 Chestnut St., Philadelphia, Secretary.
American Orthopedic Association, Washington, D. C., May 2-4. Dr. De Forrest P. Willard, 1630 Spruce St., Philadelphia, Secretary.
American Otological Society, Washington, D. C., May 2-3. Dr. Thomas J. Harris, 104 E. 40th St., New York, Secretary.
American Pediatric Society, Washington, D. C., May 1-3. Dr. H. C. Carpenter, 1805 Spruce St., Philadelphia, Secretary.
American Psychopathological Association, Washington, D. C., May 1. Dr. Sanger Brown, 2d, 118 E. 80th St., New York, Secretary.
American Society for Clinical Investigation, Washington, D. C., May 1. Dr. James H. Means, 15 Chestnut Street, Boston, Secretary.
American Society of Tropical Med., Washington, D. C., May 2. Dr. B. H. Ranson, Bureau of Animal Industry, Washington, D. C., Secretary.
American Surgical Association, Washington, D. C., May 2-4. Dr. John H. Gibbon, 1608 Spruce St., Philadelphia. Secretary.
American Therapeutic Society, Washington, D. C., May 1-2. Dr. Lewis H. Taylor, The Cecil, Washington, D. C., Secretary.
American Urological Association, Atlantic City, April 26-28. Dr. H. G. Hamer, 723 Hume-Mansur Bldg., Indianapolis, Secretary.
Arkansas Medical Society, Little Rock, May 17-19. Dr. William R. Bathurst, 810 Boyle Building, Little Rock, Secretary.
California, Medical Society of the State of, Yosemite, May 9-12. Dr. W. E. Musgrave, Butler Bldg., San Francisco, Secretary.
Congress of Amer. Phys. & Surgs. of North America, Washington, D. C., May 2-3. Dr. W. R. Steiner, 646 Asylum Ave., Hartford, Conn., Sec.
Connecticut State Medical Society, Bridgeport, May 17-18. Dr. C. W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.
Georgia, Medical Association of, Columbus, May 3-5. Dr. Allen H. Bunce, Healy Building, Atlanta, Secretary.
Illinois State Medical Society, Chicago, May 16-18. Dr. W. H. Gilmore, Mount Vernon, Secretary.
International Congress of Ophthalmology, Washington, D. C., April 25-May 3. Dr. Luther C. Peter, 1529 Spruce St., Philadelphia, Sec'y.
Iowa State Medical Society, Des Moines, May 10-12. Dr. T. B. Throckmorton, Bankers' Trust Bldg., Des Moines, Secretary.
Kansas Medical Society, Topeka, May 3-4. Dr. J. F. Hassig, 800 Minnesota Ave., Kansas City, Secretary.
Maryland, Medical and Chirurgical Faculty of, Baltimore, April 25-27. J. A. Chatard, 1211 Cathedral St., Baltimore, Secretary.
Mississippi State Medical Association, Hazlehurst, May 9-10. Dr. T. M. Dye, Clarksdale, Secretary.
Missouri State Medical Association, Excelsior Springs, May 2-4. Dr. E. J. Goodwin, 3529 Pine Street, St. Louis, Secretary.
National Tuberculosis Association, Washington, D. C., May 4-6. Dr. George M. Kober, 370 Seventh Ave., New York, Secretary.
Nebraska State Medical Association, Omaha, April 24-27. Dr. R. B. Adams, 1013 Terminal Building, Lincoln, Secretary.
New Hampshire Medical Society, Concord, May 17-18. Dr. D. E. Sullivan, 7 North State Street, Concord, Secretary.
New Mexico Medical Society, Gallup, April 28-29. Dr. J. W. Elder, Santa Fe Hospital, Albuquerque, Acting Secretary.
New York, Medical Society of the State of, Albany, April 18. Dr. E. L. Hunt, 17 W. 43d St., New York, Secretary.
North Carolina, Medical Society of the State of, Winston-Salem, April 25-27. Dr. L. B. McBrayer, Sanatorium, Secretary.
Ohio State Medical Association, Cincinnati, May 2-4. Mr. Don K. Martin, 131 East State St., Columbus, Executive Secretary.
Oklahoma State Medical Association, Oklahoma City, May 9-11. Dr. C. A. Thompson, 508 Barnes Bldg., Muskogee, Secretary.
Radiological Society of North America, St. Louis, May 19-20. Dr. M. J. Sandborn, Appleton, Wis., Secretary.
South Carolina Medical Association, Rock Hill, April 18-19. Dr. Edgar A. Hines, Seneca, Secretary.
South Dakota State Medical Association, Huron, May 16-18. Dr. Frederick A. Spafford, Flandreau, Secretary.
Texas, State Medical Association of, El Paso, May 9-11. Dr. H. Taylor, Texas State Bank Bldg., Fort Worth, Secretary.
West Virginia State Medical Association, Huntington, May 17-19. Dr. Robert A. Ashworth, Moundsville, Secretary.
Western Electro-Therapeutic Association, Kansas City, Mo., April 20-21. Dr. Charles W. Fassett, 115 E. 31st St., Kansas City, Mo., Secretary.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Roentgenology, New York

December, 1921, **8**, No. 12

*Benign and Malignant Gastric Ulcers from Roentgenologic Viewpoint. R. D. Carman, Rochester, Minn.—p. 695.
*Roentgenologic Studies of Injected Kidneys. W. K. Lim, Detroit.—p. 704.
Review of Three Years' Work and Articles on Pneumoperitoneum. J. T. Case, Battle Creek, Mich.—p. 714.
Normally Developing Shoulder. I. Cohn, New Orleans.—p. 721.
Treatment of Hyperthyroidism with Roentgen-Rays. G. W. Holmes, Boston.—p. 730.
Intensive Roentgen-Ray Therapy Practiced in Clinics in Europe. S. Stern, New York.—p. 741.
*Treatment of Cancer of Rectum by Radium. D. Quick, New York.—p. 746.
Pathologic Classification of Typhoid Gland Diseases with Radium Treatment in Toxic Goiter. R. E. Loucks, Detroit.—p. 755.
American Literature on Radium and Radium Therapy Prior to 1906. C. Chase, Brooklyn.—p. 766.
Preliminary Report on New Tube for Producing Duodenal Block. R. G. Van Nuys, Oakland, Calif.—p. 779.
Simple Device to Prevent Omission of Filters in Deep Roentgen-Ray Therapy. G. E. Pfahler, Philadelphia.—p. 780.

Roentgenoscopic Appearance of Benign and Malignant Gastric Ulcers.—Carman asserts that there are but two varieties of ulcerous lesions which evince any noteworthy roentgenologic indications of malignancy. One is the ulcerating cancer with the meniscus-like crater. The other is the niche type of ulcer with an unusually large crater. With these exceptions the examiner cannot venture opinions as to the probable character of ulcers revealed by the roentgen ray, nor should he be expected to do so. Any ulcer which appears to be benign macroscopically may prove to be malignant microscopically. Cancer may arise in an ulcer which was primarily benign.

Roentgenologic Study of Injected Kidneys.—A study of a series of injected normal kidney pelvis has convinced Lim that no two pelves, not even those removed from the same subject, bear a similarity one to the other. Superimposition of the minor calyces upon the isthmus throws a shadow which very often simulates renal calculi. Distended renal blood vessels, especially the arteries, which happen to cross the pelvis, the isthmus and the calyx, affect the contour of these structures, giving them a distorted and abnormal shadow. In four kidneys removed from two subjects, aged 8 and 12, respectively, there was present a constant tortuosity at the ureteropelvic junction.

Radium Therapy in Cancer of Rectum.—Quick's experience with these cases he believes is a warrant for treating the operable as well as some of the more advanced cases of cancer of the rectum with radium, with a reasonable hope for success. The technic of the treatment is discussed.

January, 1922, **9**, No. 1

Roentgen-Ray Diagnosis of Accessory Sinusitis. J. G. Van Zwaluwenburg, Ann Arbor, Mich.—p. 1.
Diagnosis of Pulmonary Conditions in Children. J. W. Pierson, Baltimore.—p. 11.
*Unsuspected Dermoid Cyst Diagnosed by Roentgen-Ray Examination. L. Edeiken, Philadelphia.—p. 15.
Lumbar Spine and Sacro-Iliac Joints. M. B. Palmer, Rochester, N. Y.—p. 16.
*Treatment of Carcinoma of Thyroid by Roentgen Rays and Radium. G. E. Pfahler, Philadelphia.—p. 20.
Roentgenotherapy of Thyroid. A. F. Tyler, Omaha.—p. 25.
Three Cases of Sarcoma Treated by Radiation. D. Y. Keith and J. P. Keith, Louisville, Ky.—p. 31.
Superficial Reaction of Radium as Guide to Dosage. W. S. Newcomet, Philadelphia.—p. 34.
Treatment of Brain Tumors by Radiation. H. K. Pancoast, Philadelphia.—p. 42.
*Treatment of Primary Carcinoma of Vagina with Radium. L. J. Stacy, Rochester, Minn.—p. 48.
New Type of Applicator for Use with Radium Emanation. D. Quick and F. M. Johnson, New York.—p. 53.
Comparison of Radiation Dosages Attainable by Use of Radium on and Within Tumors. C. H. Viol, Pittsburgh.—p. 56.

Efficiency of Bucky Diaphragm Principle. R. B. Wilsey, Rochester, N. Y.—p. 58.
Signal Light for Bucky-Potter Diaphragm. J. H. Lindsey, Fall River, Mass.—p. 67.

Dermoid Cyst Diagnosed by Roentgen Ray.—Edeiken relates the case of a girl, aged 17, whose chief complaint was sharp shooting pain in the right inguinal region. She had a vaginal discharge (leukorrhea) and a burning sensation on micturition. Menstruation was normal. The patient was referred for roentgen-ray examination of the urinary tract with a provisional diagnosis of ureteral stone. Just to the left of the lower border of the sacrum a number of undeveloped teeth were imbedded in a matrix of bone. A diagnosis of dermoid cyst was made.

Roentgenotherapy in Carcinoma of Thyroid.—Pfahler maintains that every case of carcinoma of the thyroid in which an operation has been performed should receive, as soon as possible, at least two thorough courses of roentgen-ray treatment, and more if the disease has not been removed completely so far as the surgeon can recognize. If a diagnosis of carcinoma of the thyroid can be made without operation, a reasonably good hope of success can be entertained from radiation treatment. Recurrent cases can be made to respond to treatment and the recurrence can be made to disappear, but the definite metastases are not likely to be controlled in late cases. Radium can be combined with roentgen-ray treatment to good advantage in carcinoma of the thyroid when the tumor has become definitely localized or when it ceases to respond to the roentgen rays.

Radium Therapy in Primary Vaginal Carcinoma.—Fourteen cases are reported on by Stacy. All the patients were given roentgen-ray treatments over the abdomen and back in conjunction with local radium applications. The local condition has been controlled comparatively successfully, but extension into the glands has not been prevented.

Archives of Surgery, Chicago

March, 1922, **4**, No. 2

*Ventriculocordectomy. New Operation for Cure of Goitrous Paralytic Laryngeal Stenosis. C. Jackson, Philadelphia.—p. 257.
*Papilloma of Larynx in Children. Eleven Cases. S. J. Crowe and M. L. Breitstein, Baltimore.—p. 275.
*Experimental Traumatic Shock. V. Critical Level in Falling Blood Pressure. W. B. Cannon and McKeen Cattell, Boston.—p. 300.
*Postoperative Intra-Abdominal Hernia. C. H. Mayo and J. A. H. Magoun, Rochester, Minn.—p. 324.
*Radical Cure of Tuberculosis of Seminal Tract. I. Brief Survey of Literature. H. H. Young, Baltimore.—p. 334.
*Radiohumeral Bursitis, Epicondylitis, Epicondylalgia (Tennis Elbow). Personal Experience. R. B. Osgood, Boston.—p. 420.
Traumatic Fracture of Cranial Bones. I. Edema of Brain; II. Bruises of the Brain. C. W. Apfelbach, Chicago.—p. 434.
*Technic of Treatment of Carcinoma of Bladder and Prostate by Combination of Surgery, Electrocoagulation, Radium Implantation and Roentgen Ray. B. A. Thomas and G. E. Pfahler, Philadelphia.—p. 451.
*Detailed Bacteriologic Study of Case of Gas Gangrene Following Compound Fracture. E. L. Barney and H. H. Heller, San Francisco.—p. 470.

Ventriculocordectomy.—Jackson describes what he considers an ideal operation for the cure of that form of stenosis associated with bilateral recurrent paralysis when the stenosis is due solely to the paralysis. If success is expected from ventriculocordectomy alone its performance must be limited to cases totally free from cicatricial stenosis. Recent onset of the paralysis is a contraindication. Briefly the operation consists in excising with the punch forceps the entire ventricular floor anterior to the vocal process and anterio-external surface of the arytenoid. The tissues are excised at one clip. In eleven of the eighteen cases in which Jackson did ventriculocordectomy the operation failed to restore an ample lumen and the operation had to be supplemented by other means—bouginage, laryngostomy or intubation—because the paralytic stenosis had been complicated by a cicatricial stenosis due to high tracheotomy, faulty after-care, improperly shaped or fenestrated cannulas, etc. There was no mortality from the operation.

Papilloma of Larynx in Children.—Eleven cases are reported by Crowe and Breitstein. The authors have tried every method of treatment with varying success. Experience leads the mto believe that radium, properly administered, may bring about a perfect result. It is probable, however, that even an ideal therapy will not eliminate preliminary tracheotomy, because so many of these cases in children are not recognized until complete aphonia or alarming symptoms of respiratory obstruction bring them to the physician.

Experimental Traumatic Shock.—From their experimental results Cannon and Cattell conclude that the critical level, that is, the level at which the blood pressure is no longer capable of maintaining an adequate volume flow to the tissues, and thus serving the normal oxidations of the body, is approximately 80 mm. mercury. Above 80 mm. reduction of the alkali reserve is not likely to appear; but as the pressure falls below this, a reduction will probably occur, which is more marked and develops the more rapidly the lower the pressure. If there has been a loss of blood, the circulation becomes inadequate before the pressure falls to 80 mm. mercury, i. e., the critical level is raised. Experiments also have definitely proved that with an acute lack of oxygen nerve cells abruptly cease to function. The experimental and clinical observations on the effects of prolonged low pressure point to the fact that these sensitive cells may be gradually harmed, if, instead of acute anemia, there is prolonged partial anemia. The authors emphasize the prime importance of early treatment of the low blood pressure of shock. Though the tissues may not suffer until blood pressure has fallen below a critical level of approximately 80 mm. mercury, it is desirable, when the pressure has fallen below this level and has shown no evidence of rising, that it be raised to the normal level of 120 mm. mercury, if possible, in order to provide the most favorable conditions for repair of the damage which has been done.

Postoperative Intra-Abdominal Hernia.—Two cases of internal hernia following gastrojejunostomy, and one following colostomy are reported by Mayo and Magoun, and ten cases recorded in the literature are analyzed.

Cure of Tuberculosis of Genital Tract.—These statistics based on sixty-three cases from Johns Hopkins Hospital and those recorded in the literature Young asserts are sufficient to demonstrate that among patients presenting evidence of tuberculosis of the external genitalia more than 50 per cent. present definite evidence of involvement of the prostate or vesicles, or both. Among Young's cases, thirty were unilateral, which, he asserts, is additional confirmatory evidence that the seminal vesicles became involved early in testicular disease, if not preceding it. This study also confirms the great frequency of bilateral testicular or epididymal involvement and the frequency of simultaneous involvement of the seminal vesicles, and that after removal of the disease on one side there remains a tuberculosis of the seminal vesicles from which the other testicle becomes involved, another argument showing the inadequacy of unialteral epididymectomy or castration. The fact that a cure was effected by castration or epididymectomy in only 19 per cent. proves the ineffectiveness of these operations. Of the patients who recovered five out of eight had no evident involvement of vesicles, and in those that were recorded as improved there was no involvement in six out of fourteen, showing conclusively that a large percentage of the few good results from epididymectomy or castration are among those early or isolated cases in which the involvement of the prostate and seminal vesicles is either absent or too small to be detected, and the fact that among those patients who are reported dead only three out of eighteen have no involvement of the deeper structures is also strong evidence that the more radical operation should have been caried out in those cases.

Radiohumeral Bursitis.—The essential pathology of tennis elbow, epicondylitis, or epicondylalgia Osgood states is believed to be an inflammatory reaction in a commonly existing bursa, varying in size, and located beneath the conjoined tendon of the extensor muscles between the tendon and the tip of the epicondyle, or original of the supinator radii brevis muscle, and the radiohumeral joint. Somewhat similar symptoms occasionally referred to the mesial condylar region may be explained by similar areolar tissue reactions beneath the

common tendon of the flexor muscles. No constant bursa has been found in this region but adventitious ones may well occur. Heretofore, the only method of treatment which has been generally successfully has been complete immobilization for six weeks. Untreated, the discomfort may persist indefinitely; but it is usually self-limited, in from three months to a year. The operation of splitting the conjoined tendon, opening the bursa, evacuating the contents, and curetting its walls is not likely to do harm; and in two cases it has been followed by a rapid subsidence of symptoms and free use of the arm.

Treatment of Prostate and Bladder Cancer.—Employing a combination, or quartet, of therapeutic measures, twenty-six patients have been treated by Thomas and Pfahler. Although some patients have not been relieved of their symptoms, or their symptoms have returned after a period of improvement or actual freedom, only two are known to be dead, and one has been untraceable. The majority of these patients have been treated and observed only during the last three years. The authors describe their technic in detail and state the conviction that it offers more in the way of prolongation of life, if not cure in a few rare instances, than any other method of treatment heretofore employed in this particular type of malignant disease.

Bacteriology of Gas Gangrene.—The case reported by Barney and Heller emphasizes the importance of bacteriologic examination early in compound fractures, even in civil life, by one especially skilled in anaerobic work. It shows also that all cases of compound fracture should be under observation in a hospital for at least the first two days after injury. This case of gas gangrene, which was due to an infected compound fracture of the forearm, was diagnosed before amputation as a Welch bacillus infection. Four anaerobic bacilli of rapid invasion in the guinea-pig body were isolated from the amputated arm. *B. welchii* had not invaded such tissue as was supplied with circulation. The principal invader was *Vibrion septique* which nearly caused the death of the patient after amputation. There were two anaerobic bacilli that are guinea-pig invaders which are apparently new. No cocci or aerobic rods were present in the wound or surrounding tissue.

Arkansas Medical Society Journal, Little Rock

March, 1922, **18**, No. 10

Importance of Spinal Fluid Examination in Early Syphilis. E. H. Martin and E. A. Purdum, Hot Springs.—p. 187.
Mumps. S. F. Hoge, Little Rock.—p. 190.

Boston Medical and Surgical Journal

March 23, 1922, **186**, No. 12

Clinical Diagnosis of Cardiac Conditions. W. E. Preble, Boston.—p. 372.
Ankylosis of Jaw. R. H. Gilpatrick, Boston.—p. 374.
*Public Health Status of Amebic Dysentery in United States as Potentially Influenced by World War. C. W. Stiles, Washington.—p. 377.
Relative Fertility. E. Reynolds and D. Macomber, Boston.—p. 380.
Pathology of Tuberculosis. L. W. Smith, Boston.—p. 385.
*Serum Treatment of Lobar Pneumonia. L. W. McGuire, Boston.—p. 389.
Case of Mesenteric Thrombosis. J. G. Henry, Winchendon, Mass.—p. 390.

March 30, 1922, **186**, No. 13

Theory of Psychoanalysis. J. F. W. Meagher, Brooklyn.—p. 409.
Achylia Gastrica. L. Fischbein, Boston.—p. 413.
Extraction of Nonmagnetic Foreign Bodies from Anterior Chamber of Eye. W. F. O'Reilly, Lynn, Mass.—p. 418.
Progress in Gynecology. S. Rushmore, Boston.—p. 420.

Amebic Dysentery in United States.—Stiles reports on an investigation made by the U. S. Public Health Service to determine whether there has been an increase in amebic dysentery since the ending of the World War, some observers having claimed that there has been such an increase. A letter of inquiry, asking whether any increase in amebic dysentery has been observed, was sent to 607 hospitals and to 115 medical schools. Replies were received from 468 hospitals and from seventy-one medical school schools, representing every state in the Union except four. Only negative replies (190) were received from twenty-eight states. Only negative and indefinite replies were received from three states. Thus in at least thirty-one states, clinical amebic dysentery has not increased since the armistice to an extent that it attracted the attention of hospitals and medical schools. Out of a total of 532 replies, for forty-four states, twenty-four answers, or 4.5 per cent., report an increase but not in a manner as to give rise to serious concern. An examination of 13,043 specimens from 8,029 persons, in forty-eight institutions, located in twenty-two states and the District of Columbia disclosed that 44 per cent. showed either protozoan or worm infection of one kind or another; 39.9 per cent. showed protozoa; 9.6 per cent. showed worms. Immigrants, American boys and girls, civilians, soldiers who did not go to Europe, and soldiers who returned from Europe were examined, and in each group not less than 9 per cent. were infected. Therefore, Stiles believes that the conclusion is justified that on an average the soldiers who served in Europe were not infected with amebic dysentery any more than are certain other elements of the population, namely the soldiers who saw only home service, certain groups of civilians and certain training schools. The intensive studies on intestinal protozoa, studies conducted during and since the World War, appear to Stiles to bring out two practical facts very clearly: (1) At least in the temperate climates, the intestinal protozoa of man are by no means of so much clinical importance as has been feared or even assumed. (2) At least in temperate climates, *Endameba histolytica*, the parasite of amebic dysentery, is not usually a serious parasite, and its presence in healthy carriers is common.

Serotherapy of Pneumonia.—McGuire reports thirty-five cases of lobar pneumonia, Type I, in which serum treatment was effective.

Canadian Medical Association Journal, Toronto

March, 1922, **12**, No. 3

Some Tendencies in Modern Clinical Medicine. C. F. Martin, Montreal.—p. 131.
*"Marrow Pains" in Malaria and in Certain Other Acute Fevers. J. Tait, Montreal.—p. 134.
Rational Treatment of Surgical Shock Based on Proven Physiologic Data. A. R. Munroe, Edmonton, Alberta.—p. 138.
Anterior Poliomyelitis. A. A. Murray, Winnipeg.—p. 139.
*Pancreatic Extracts in Treatment of Diabetes Mellitus. F. G. Banting, C. H. Best, J. B. Collip, W. R. Campbell and A. A. Fletcher, Toronto.—p. 141.
Problems of Clinical Interest to Surgeon and Radium Therapist Relating to Cancer. C. E. Field and R. P. Wadhams, New York.—p. 153.
Statistical Study of Seventy-Seven Cases of Tuberculous Meningitis. H. McClelland, Toronto.—p. 157.
Heart Block and Auricular Fibrillation. C. F. Moffatt, Montreal.—p. 159.
Septic Abortion. O. A. Cannon, Hamilton, Ont.—p. 163.
Observations on Value of Lumbar Puncture. A. H. MacCordick, Montreal.—p. 168.
Anesthesia for Nose, Throat and Abdominal Surgery by Nitrous Oxid Oxygen C. E. Combination. H. E. H. Boyle, London, England.—p. 171.
Case Reports from Montreal General Hospital. W. H. Eakin.—p. 175.
Tuberculous Meningitis Simulating Encephalitis Lethargica Haemorrhagica. L. C. Dursthoff.—p. 176.
On Parkinsonian Syndrome. C. K. Russell.—p. 177.

Marrow Pains in Malaria.—While conducting a laboratory research on the fate of foreign particles injected into the blood stream, Tait noticed what seemed to be a relation between these experiments and malaria. When fine particles of India ink suspended in saline solution are injected in large amount into the blood vessels of a rabbit, the black pigment, mixing with the systemic blood, at first discolors it, but the discoloration rapidly disappears, and within an hour, microscopic examination of films of the blood may fail to reveal a single particle of the ink. When the injected animal is killed the liver and spleen are black as coal. The ribs show up through the chest wall conspicuously black in color, and the thin cranial bones are similarly discolored. When a long bone, such as the femur, is split open, the marrow comes out jet black, the bone itself being free from pigment. As a rule, but, perhaps, not invariably, the pigment finds a lodging also in the lung and in the kidney. The invariable absence of pigment in all the other organs is just as striking as is its constant presence in the liver, spleen and bone marrow. In malaria granules of melanin pigment as well as the organisms of the disease, congregate in the liver, in the spleen and in the bone marrow. The patient during a paroxysm suffers from fairly severe pains, which may involve

various regions of the body. On the assumption that these pains might originate in bone marrow, Tait set himself the task of tabulating the sites of the pains complained of by patients in a large number of cases. Neglecting the occurrence of tenderness on pressure over the spleen and the frequent occurrence of epigastric or umbilical pain (provisionally classed as a referred pain), all the other pains of the disease were referable to regions containing bone marrow. The most frequent pains of all, and present in all cases, are pain in the back (especially sacral and lumbar, though sometimes dorsal as well) and headache (back of the eyes, frontal, vertical or occipital, as the case may be). Next in frequency are pains above and below the knee; then pains in the upper arm; more rarely in the lower part of the tibia and foot, or in the forearm and wrist. No case of costal pain was found, though in rare cases sternal pain was present. Pain in the cervical region was noted only once. Unlike the splenic tenderness, which is reduced by pressure, and in marked contrast with the pains of trench fever, these particular pains were in no way aggravated either by locally applied pressure or by movement and exercise. This discovery seemed further to support the view that they are "marrow" pains. Fimiliarity with the sites of malaria pain proved to be of value in differential diagnosis and in dealing with men who professed to have had recent attacks of malaria.

Pancreas Extract in Diabetes Mellitus.—Following the production of what appears to be a concentrated internal secretion of the pancreas and the demonstration of its physiologic activity in animals, and under careful control, its relatively low toxicity, the authors present a preliminary report on the pharmacologic activity of this extract in human diabetes mellitus. Clinical observations at this juncture would appear to justify the following conclusions: (1) Blood sugar can be reduced markedly even to the normal values. (2) Glycosuria can be abolished. (3) The acetone bodies can be made to disappear from the urine. (4) The respiratory quotient shows evidence of increased utilization of carbohydrates. (5) A definite improvement is observed in the general condition of these patients and in addition the patients themselves report a subjective sense of well being and increased vigor for a period following the administration of these preparations.

Endocrinology, Los Angeles

January, 1922, **6**, No. 1

Spontaneous Attack of Tetany During Paroxysm of Hyperpnea in Psychoneurotic Patient Convalescent from Epidemic Encephalitis. L. F. Barker and T. P. Sprunt, Baltimore.—p. 1.
Hypopituitarism and Its Treatment. H. Lisser, San Francisco.—p. 15.
Early Observations Pertaining to Hypophysis. H. G. Beck, Baltimore.—p. 40.
Water and Salt Metabolism in Diabetes Mellitus. J. Koopman, The Hague.—p. 48.
Disorders of Thyroid Gland. III. Pathologic and Clinical Significance of Diffuse Adenomatosis of Thyroid. E. Goetsch, Brooklyn.—p. 59.
Suprarenal Feeding in Conditions of Hyperthyroidism. J. Rogers, New York.—p. 73.
Suprarenal Enlargement in Rabbits. T. L. Squier, Battle Creek, and G. P. Grabfield, Boston.—p. 85.
Effect of Iodin and Iodythyrin on Larvae of Salamanders. I. Effect of Iodothyrin and Iodin on Metamorphosis of Ambystoma Maculatum. E. Uhlenhuth, New York.—p. 102.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

March, 1922, **19**, No. 2

Perfusion of Medulla of Terrapin (Pseudomys Troosti) with Epinephrin. W. J. R. Heinekamp, Chicago.—p. 131.
*Influence of Purgatives on Blood Concentration. F. P. Underhill and I. Errico, New Haven, Conn.—p. 135.
Physiologic Action of Some Protein Derivatives. IV. Toxicity of Vaughan's Crude Soluble Poison. F. P. Underhill and A. M. Hjort, New Haven, Conn.—p. 145.
Id. V. Relation of Blood Concentration to Peptone Shock. F. P. Underhill and M. Ringer, New Haven, Conn.—p. 163.
Id. VI. Influence on Blood Concentration of Vaughan's Crude Soluble Poison. F. P. Underhill and M. Ringer, New Haven, Conn.—p. 179.
Biologic Reactions of Arsphenamin. I. Mechanism of Its Agglutinative Action on Red Blood Cells in Vitro. J. Oliver and E. Douglas, San Francisco.—p. 187.
Id. II. Protective Action of Hydrophilic Colloids on Agglutination of Red Blood Cells by Arsphenamin. J. Oliver and S. S. Yamada, San Francisco.—p. 199.

Influence of Purgatives on Blood Concentration.—The significant feature in the action of purgation is the watery character of the stools. The question naturally arises "what is the source of this fluid?" Two possibilities present themselves: (1) the fluid is present because of lack of absorption of the intestinal contents induced, perhaps, by the presence of the purgative, or (2) the presence of the purgative draws water from the blood. It is quite evident that if water is drawn from the blood to any considerable extent by the action of the purgative in the bowel, such an influence is capable of measurement by observation of changes in blood concentration. In order to indicate the mode of action of different purgatives blood concentration studies were made by Underhill and Errico on animals. Magnesium sulphate, sodium sulphinate and Rochelle salts produced a distinct rise in the hemoglobin, ranging between 114 and 120 per cent. of the normal. The fact that purgatives exert a definite influence in the direction of concentrating the blood indicates that some care should be exercised in the administration of purgatives in diseased conditions especially in those states known to be responsible for concentrated blood. By ill advised use of purgatives it is quite apparent that a blood concentrated to some extent and yet not sufficiently concentrated to be dangerous in itself may reach a dangerous concentration by the added influence of the purgative. Such a factor may account, in part, for the collapse which at times follows the administration of a purgative. Castor oil and cascara sagrada produce no change whatever in the hemoglobin. Therefore, they probably produce by local irritation a very active peristalsis which hurries the intestinal contents along the alimentary tract, preventing the absorption of the entire contents.

Journal of Urology, Baltimore

January, 1922, **7**, No. 1

*Operation for Cure of Incontinence Associated with Epispadias. H. H. Young, Baltimore.—p. 1.
*Treatment of Malignant Disease of Prostate and Bladder. J. T. Geraghty, Baltimore.—p. 33.
*Case of Calcification of Seminal Vesicles. H. L. Kretschmer, Chicago.—p. 67.
*Modification of Differential Functional Test with Phenolsulphonephthalein. A. Peterson ,Los Angeles.—p. 73.
*Sarcoma of Suprarenal. H. G. Fuller.—p. 77.

Operation for Cure of Incontinence with Epispadias.—In two cases of epispadias associated with incontinence Young effected a radical cure by a new operation which he devised. In cases associated with incontinence of urine there is a muscular defect along the roof of the deep urethra associated with dilatation of the vesical orifice and the urethra in the region of the external sphincter. To obtain a radical cure of the incontinence and restoration to normal urination the plan followed consisted, briefly, in the excision of the superabundant roof of the urethra and restoring the vesical neck and external sphincter by suture.

Treatment of Cancer of Prostate.—The results obtained in the treatment of cancer of the prostate by various procedures or combination of procedures Geraghty says would seem to indicate that fulguration should be the method of choice in all benign and malignant papillomas which can be reached by endovesical means. When the tumor is resistant to fulguration, or if it is papillary carcinoma, noninfiltrating or superficially infiltrating, radium will give uniformly good results and the results will be obtained by surface applications to the tumors. When the tumor is situated deeply and is distinctly infiltrating but sufficiently localized so that resection could be carried out and the growth removed with a definite healthy margin of tissue, this procedure should be employed and no dependence placed on radium therapy. When following the removal of the growth the operator feels that possibly he has not given sufficient margin at any one point, radium should be inserted in the contiguous tissue. In the very extensive cases of carcinoma in which it is impossible satisfactory to carry out endovesical treatment with radium, it is Geraghty's custom to open the bladder suprapubically, destroy as much as possible of the tumor of tumors with the actual cautery, and then implant radium emanation tubes approximately from 1 to 2 cm. distant from each other.

So far, however, results in these otherwise hopeless cases have not been very brilliant.

Calcification of Seminal Vesicles.—Kretschmer's patient was only 14 years of age, yet there was present extensive calcification of one seminal vesicle. The boy had previously been operated on for stone in the bladder but no stone was found. A diagnosis of stone in the ureter was made and the boy's father was told by the surgeon that he had crushed the stone with his fingers and that the fragments would pass. The suprapubic wound failed to close, discharging clear urine, as a rule, but pus at intervals. Frequency of urination was present for several years. Physical examination was negative, except for the presence of a slightly enlarged right kidney. Examination of the urine showed albumin, pus cells, red blood cells and bacteria. Roentgen-ray examination showed the presence of an elongated, moderately dense shadow about 1 by 3 cm. in the lower pelvic region on the left side. From its position and contour it was believed that the shadow was not due to a stone in the ureter. Cystoscopy showed a mild generalized cystitis. Rectal examination disclosed a left seminal vesicle hard, irregular, and corresponding in outline with the shadow seen on the roentgenogram. Palpation showed that a definite interval existed between this hard calcified seminal vesicle and the shadowgraph catheter. Repeated examinations were made for tubercle bacilli in the urine from the left kidney and all were negative. A diagnosis of pus kidney, probably tuberculous, was made. Left nephrectomy was carried out. The removed kidney showed the presence of tuberculous pyonephrosis.

Modified Phenolsulphonephthalein Test.—Peterson describes a concentration test of phenolsulphonephthalein. After ureteral catherization has been accomplished and specimens collected for microscopic examinations 1 c.c. phenolsulphonephthalein is given intravenously, its time of appearance noted and the phenolsulphonephthalein collected for fifteen minutes. The bladder specimen is obtained either by having the patient void or drawn by a soft catheter. An equal number of cubic centimeters (usually 5 or less) of each kidney specimen is measured into a suitable glass graduate and a few drops of sodium hydrate solution are added to each. Each specimen is diluted with distilled water to 200 c.c., filtered and read in the colorimeter. The strength of color expressed in per cent. represents the concentration of the phenolsulphonephthalein excretion from each kidney during the period of observation without reference to the quantity actually excreted and is constant without consideration of leakage into the bladder. On the completion of the concentration reading, the remainder of each specimen is added to its respective sides and the quantitative test completed in the usual way. The amount of phenolsulphonephthalein in the bladder specimen is also determined.

Sarcoma of Suprarenal.—In Fuller's case the predominating symptom was severe pain referable to the lower scapular region. At first it was thought that this was a case of empyema, but roentgen-ray examination led to a diagnosis of either perinephritic abscess or new growth, presumably of the suprarenal, the greatest leaning being toward the latter diagnosis. Operation disclosed a tumor mass apparently springing from the upper pole of the kidney, extending upward and backward, displacing the diaphragm. The mass was distinctly above and nonadherent to the kidney structure, presenting all typical and unmistakable physical characteristics of malignant growth of the left suprarenal. It proved to be a large round cell sarcoma.

Kentucky Medical Journal, Bowling Green

March, 1922, **20**, No. 3

Blastomycosis: Syphilis. Case Reports. W. J. Young, Louisville.—p. 156.
Normal Menopause. W. L. Mosby, Bardwell.—p. 157.
Abnormal Menopause. H. A. Gilliam, Melburn.—p. 159.
Diagnosis and Treatment of Toxic Goiter. L. W. Frank, Louisville.—p. 159.
Surgical Treatment of Goiter. J. R. Wathen, Louisville.—p. 168.
Blood Transfusion in Medical Diseases. J. R. Morrison, Louisville.—p. 174.
Three Cases of Multiple Sclerosis: Review of Recent Literature. M. Flexner, Louisville.—p. 180.
Various Methods of Performing Cesarean Section with Indications and Contraindications. L. C. Redmon, Lexington.—p. 187.
Acute Brain Injuries. E. W. Jackson, Paducah.—p. 191.
Constipation. C. V. Heistand, Campbellsville.—p. 194.
Plea for Early Diagnosis and Treatment of Hyperthyroidism. C. W. Dowden and C. D. Enfield, Louisville.—p. 196.
Diagnosis and Treatment of Encephalitis. J. J. Moren, Louisville.—p. 200.
Cancer of Large Intestine. G. A. Hendon, Louisville.—p. 204.
Acute Abdomen; Diagnosis and Differential Diagnosis. W. Z. Jackson, Arlington.—p. 206.
Future of Medicine as Affected by Ultraspecialization. E. H. Ochsner, Chicago.—p. 208.

Maine Medical Association Journal, Portland

March, 1922, **12**, No. 8

Acute Mechanical Ileus. F. H. Jackson, Houlton.—p. 211.
Value of Two Stage Operation in Surgery. E. H. Risley, Waterville.—p. 218.
Prostatism. C. N. Peters, Portland.—p. 227.

Medical Record, New York

March 25, 1922, **101**, No. 12

The Stepfather. Medical Comedy with Psychanalytic Trend. C. L. Dana, New York.—p. 484.
Headache and Chronic Mastoiditis. W. L. Culbert, New York.—p. 486.
*Fluoroscope in Diagnosis of Diseases of Heart. L. F. Bishop, New York.—p. 489.
*Carcinoma of Pancreas. J. B. Deaver, Philadelphia.—p. 492.
Value of Radium in Management of Uterine Hemorrhage. J. O. Polak, Brooklyn.—p. 493.
Epidemic Encephalitis Simulating Brain Tumor. Three Cases. I. J. Sands, New York.—p. 494.
New Duodenal Tube. L. W. Kohn, New York.—p. 499.
*Diazo Reaction. R. A. Kilduffe, Pittsburgh.—p. 500.

Fluoroscopy in Diagnosis of Heart Disease.—Bishop advocates fluoroscopy as a routine procedure in the examination of large numbers of patients to determine which are deserving of detailed cardiologic study and which are not.

Prevention of Carcinoma of Pancreas.—One possible way of preventing the development of cancer of the pancreas, Deaver says, is by preventing any development of chronic pancreatitis and this is by early attention to disease of the stomach, gallbladder, bile ducts and liver. That these latter conditions can be cured to a very great extent is generally conceded, but cancer of the pancreas can never be cured. The only thing that surgery offers is to relieve back pressure of the bile and the intolerable itching caused by the jaundice.

Value of Diazo Reaction.—The technic used by Kilduffe was that advocated by Greene. In 2,017 tests a positive reaction occurred twenty-eight times, an incidence of 1.4 per cent. The reaction was positive in every case of pneumonia tested (six) and was constantly found positive at some time or another in every case of typhoid fever (five). Two known cases of tuberculosis were actively progressing and in three suspects the history and clinical picture were very suggestive, although a positive sputum was not obtained during the period of examination reported. The occurrence of a positive reaction following the injection of neo-arsphenamin is of some interest though without adequate explanation. The result of the series indicates that with the technic used the reaction does not occur promiscuously.

Missouri State Medical Association Journal, St. Louis

March, 1922, **19**, No. 3

Are We Giving Our Parturient Women A Square Deal? F. T. Van Eman, Kansas City.—p. 97.
Review of Literature of Hemorrhagic Diseases of Newborn. D. Walthall, Kansas City.—p. 100.
Gonorrhea in Women. W. J. Willis, Springfield.—p. 102.
Nontuberculous Infections of Kidney. N. Moore, St. Louis.—p. 104.
Psychic Influence on Bladder Disturbances in Women. R. E. Wobus, St. Louis.—p. 111.
Plea for Closer Cooperation of Specialist and Pediatrician on Tonsil and Adenoid Question. E. L. Russell, Kansas City.—p. 113.
Efficiency and Economy in Pediatric Practice. J. Zahorsky, St. Louis.—p. 114.
Perforating Wounds of Eyeball. E. S. Connell, Kansas City.—p. 117.
Importance of Ophthalmoscopic Examination in Children. J. P. Costello, St. Louis.—p. 118.
Obligations of Physicians and Problems of Medical Society. W. W. Graves, St. Louis.—p. 120.
*Wassermann Test at Missouri School for Blind. H. D. Lamb, St. Louis.—p. 124.

Wassermann Test in School for Blind.—At the Missouri School for the Blind the Wassermann test has been made on

155 scholars. Among these are 19, or 12.3 per cent., in whom syphilis appeared to be of evident etiologic significance. There were 41 cases of ophthalmia neonatorum, or 21.7 per cent., which would make 34 per cent. or one-third of all the cases due to venereal disease. In detail the results were: retinochoroiditis, 5 cases, 5 positive; parenchymatous keratitis, 3 cases, 1 negative, 2 positive; optic atrophy, 25 cases, 5 declined test, 12 negative, 8 positive; progressive uveitis, 10 cases, 9 negative, 1 positive; malformations (congenital), 26 cases, 5 declined test, 19 negative, 2 positive.

Neurological Bulletin, New York

September-October, 1921, **3**, No. 9-10

*Bradykinetic Analysis of Somatic Motor Disturbances: Analysis of Motor Disorders by Aid of Ultrarapid Moving Pictures. S. P. Goodhart and F. Tilney, New York.—p. 295.
Segmental or Nuclear Trigeminal Sensory Disturbance. I. S. Wechsler, New York.—p. 324.
*Cerebral Subarachnoid Hemorrhage with Recovery. C. A. McKendree, New York.—p. 327.
Significance of Nystagmus in Lesion of Abducens Nucleus. J. Rosett, New York.—p. 332.
*Arthritic Muscular Atrophy; Report of Case Simulating Anterior Crural and Obturator Neuritis. R. A. Gerber, New York.—p. 338.
*Two Cases with Signs of Increased Intracranial Pressure Presenting Unusual Roentgen-Ray Findings in Cranium. S. Brock, New York.—p. 344.

Bradykinetic Analysis of Motor Disorders.—Disturbed motor function has been studied for many years by Goodhart and Tilney by means of ultrarapid moving pictures taken at the rate either of 160 or 300 exposures per second. The ordinary cinematographic rate is sixteen exposures per second, so that the ultrarapid rate is from ten to eighteen times as fast. The normal rate of projection on the screen offers opportunity for the study of every component in each movement. The motion, thus slowed down, serves as the basis for what the authors have termed bradykinetic analysis. The motor disorders submitted to bradykinetic analysis include choreiform movements, torsion spasms, extreme intention tremors and cerebellar ataxia. These motor defects occurred in cases of chronic degenerative chorea, astasia abasia, dystonia musculorum deformans, multiple sclerosis and congenital cerebellar aplasia. In all the cases studied the motor defect was characterized by some pronounced abnormal and adventitious element of motion which produced a definite deformity of movement. Cinematographic analysis indicates that all purposive movements depend on the concurrent and synchronized operation of the kinetic and static mechanisms. Such movements are made up of a series of postures beginning with an initial posture and concluding with a terminal posture. This series of postures during a movement may readily be demonstrated by stopping the projection apparatus at each picture either in the slow or normal reproduction. Such an act as taking a step forward then appears to be composed of a series of successive postures.

Cerebral Subarachnoid Hemorrhage.—McKendree cites the case of a man, aged 31, a syphilitic, who suffered two vascular accidents. Especially noteworthy were the sudden onset of peculiarly severe headache, followed rapidly by vomiting; rigidity of the neck, and pain in the shoulders and lower back, which gradually subsided; three weeks later, sudden recrudescence of headache, vomiting, stiff neck, convulsions of the purely tonic type, delirium, etc.; bradycardia, persisting leukocytosis, strongly positive Wassermann reaction; intraocular hemorrhages on the right; left facial paresis, and transitory clonus; bloody spinal fluid on four occasions, and gradual and progressive recovery. McKendree believes that the hemorrhage resulted from the rupture of a very small aneurysm. As the patient suffered such a small amount of hemorrhage, it is most probable that the ventricles and the cisterns were not invaded. The author suggests that the aneurysm was located on the piaarachnoid on the right side, possibly on the convexity of the brain.

Arthritic Muscular Atrophy and Paresis.—Gerber reports a case of muscular atrophy, secondary to arthritis of the left hip, with paresis or partial paralysis of the muscles supplied by the anterior crural and obturator nerves.

Intracranial Osteoma and Fracture of Wing of Sphenoid.—One of the cases cited by Brock was an instance of cortical epilepsy with extensor movements of the left upper and lower extremities and left face, associated with an unusual roentgenogram of the calvarium (intracranial osteoma?) A mass having almost bonelike density extended downward and forward just anterior to the junction of the frontal and parietal bones, apparently dipping down into the longitudinal fissure. There was no history of venereal disease in this case and the blood Wassermann reaction was negative. Before admission to the hospital (December 6) the patient was given 15,000 units of tetanus antitoxin. From December 7 to December 13, he was given sodium bromid, 0.65 gm., every four hours, and occasional doses of morphin sulphate, 0.008 gm. December 15, potassium iodid was begun in 1 gm. doses, three times a day, increasing 0.006 gm. a day until December 22. December 16 and 21, he was given 0.04 gm. mercury salicylate in liquid petrolatum intramuscularly. December 20 his symptoms began to abate, and in three days had entirely disappeared. In the second case there was paralysis of the first six cranial nerves on the right side complicating fracture of the right side of the sphenoid bone, and adjacent floor of the orbit. The very slow involvement of these nerves, the negative serology, and the roentgen-ray findings constituted an interesting clinical picture. The posterior clinoid processes of the sella turcica were much enlarged with some encroachment on the pituitary fossa. An irregular line, suggesting an old fracture into the right greater wing of the sphenoid bone, continuing into the floor of the right orbit was seen. It also extended along the nasal side of the orbit into the right frontal sinus, which was somewhat clouded, giving the appearance of a peculiar thickening in the right frontal sinus.

New York Medical Journal

March 15, 1922, **115**, No. 6

Effects of Faulty Foods on Endocrine Glands. R. McCarrison, Coonoor, Madras, India.—p. 309.
Effect of Endocrine Derangement on Dental Tissues. F. W. Broderick, Bournemouth, England.—p. 314.
Endocrine Interactions. D. M. Kaplan, New York.—p. 321.
Study of Endemic Goiter in British Columbia. H. E. Waller.—p. 325.
Early Diagnosis and Treatment of Hyperthyroidism. E. Goetsch, Brooklyn.—p. 327.
Pathogenesis, Symptomatology and Treatment of Hyperthyroidism. I. Bram, Philadelphia.—p. 336.
Interrelation of Endocrines and Vegetative Nervous System. W. V. P. Garretson, New York.—p. 344.
*Suprarenals in Asthma. A. F. Hurst, London.—p. 347.
Anaphylaxis and Endocrines. H. R. Harrower, Glendale, Calif.—p. 348.
*Incidence of Syphilis in Hyperthyroidism and Myxedema in Children. M. B. Gordon, Brooklyn.—p. 350.
*Case of Hypothyrosis in Infant. A. E. Siegel, Philadelphia.—p. 352.

Epinephrin in Asthma.—An attack of asthma can, Hurst says, in fact, be cut short by the subcutaneous injection of epinephrin more rapidly than by any other method. The most efficacious dose is much smaller than that generally given. In many cases 1 minim of 1:1,000 epinephrin chlorid is enough, more than 2 minims being rarely required. But the injection should be given at the beginning of an attack, directly a patient wakes in the night, for instance, and not half an hour or an hour later when it has reached its full development. The relief is so immediate that the patient often falls asleep within five minutes of waking in an attack. Such small doses give rise to no unpleasant sensations such as frequently follow the injection of 3 or more minims. The treatment can be continued for long periods without any fear of ultimately causing arteriosclerosis.

Syphilis and Hypothyroidism.—Gordon studied the Wassermann and luetin reactions in forty-two children suffering from some form of diminished thyroid secretion in an attempt to valuate the importance of syphilis as an etiologic factor in the production of these diseases. The results obtained indicate that syphilis is not of great etiologic importance in the causation of either myxedema or hypothyroidism in children. It is, however, possible for syphilis to attack the thyroid with the production of these conditions. The presence of a mental deficiency in three of the five positive cases is significant of the predilection of the *Spirochaeta pallida* for the brain and nervous system.

Hypothyrosis in Infants.—That cretinism may be found in the offspring of goitrous parents is shown in Siegel's case.

The mother had an enlarged thyroid gland which appeared during her first pregnancy, but which enlarged for the most part during the last pregnancy. There was no evidence either of increased or diminished function and the gland was apparently cystic. Following the use of thyroid extract 1.5 grains daily in three doses, there was immediate and marked improvement. Under the continuation of this treatment, with some reduction from the initial dose, the improvement has been progressive.

Northwest Medicine Seattle

March, 1922, **21**, No. 3

*Diaphragmatic Hernia. B. N. Wade, oPrtland, Ore.—p. 65.
Roentgenologic Review of 750 Gastro-intestinal Examinations. M. F. Dwyer, Seattle.—p. 70.
Gastric and Duodenal Ulcer. A. A. Matthews, Spokane, Wash.—p. 74.
Medical Treatment of Ulcer of Stomach and Duodenum. G. Baar, Portland, Ore.—p. 78.
Nonsurgical Drainage of Gallbladder. T. C. Gibson, Salt Lake City. —p. 79.
Preventable Causes of Adhesions. P. W. Willis, Seattle.—p. 81.
Medical Legislation in Idaho. E. E. Laubaugh, Boise, Idaho.—p. 83.
What is the Matter with Practice of Medicine. W. M. Karshner, Pulyallup, Wash.—p. 85.

Diaphragmatic Hernia.—Two cases of diaphragmatic hernia are reported by Wade. One was a traumatic hernia following a stab wound, and the other an acquired hernia following an empyema.

Philippine Journal of Science, Manila

November, 1921, **19**, No. 5

New Philippine Coleoptera. K. M. Heller.—p. 523.

Tennessee State Medical Association Journal, Nashville

March, 1922, **14**, No. 11

Mediastinal Abscess. W. A. Bryan, Nashville.—p. 405.
Study of Adamantinoma with Report of Case. W. G. Carnathan, Nashville.—p. 408.
Diagnosis of Chronic Appendicitis. F. B. Bogart and W. H. Cheney, Chattanooga.—p. 411.
Glaucoma Operations. S. T. Hubbard, Chattanooga.—p. 414.
Effect of Yeast Vitamin in Marasmus. R. H. Perry, Nashville.—p. 422.
Radium Therapy. W. D. Haggard and C. R. Crutchfield, Nashville. —p. 423.
Third Stage of Labor. W. B. Anderson, Nashville.—p. 431.

Texas State Journal of Medicine, Fort Worth

March, 1922, **17**, No. 11

Better Gynecology and Better Obstetrics. W. L. Crosthwait, Waco. —p. 522.
Apprehensions for Rural Mother of Future. C. E. Durham, Hico.—p. 525.
Medical Gynecology. G. B. Foscue, Waco.—p. 528.
Ever Present Female Patient. A. D. Patillo, Wichita Falls.—p. 533.
Pelvic Inflammation of Female, with Special Reference to Peritoneum. E. Dunlap, Dallas.—p. 535.
Abdominal Delivery: Reasonable Procedure. W. Cantrell, Greenville. —p. 538.
Cystocele. C. C. Cade, San Antonio.—p. 540.
Imperative Structures That Are Utilized in Support of Pelvic Diaphragm. G. B. Thaxton, Dallas.—p. 541.
Some Eye Disturbances Due to Pelvic Reflexes. E. F. Gough, Wasahachie.—p. 543.

Virginia Medical Monthly, Richmond

March, 1922, **48**, No. 12

Congenital Hypertrophic Pyloric Stenosis. F. D. Wilson, Norfolk.—p. 675.
Surgical Treatment of Congenital Hypertrophic Pyloric Stenosis. S. McGuire, Richmond.—p. 679.
Treatment of Hemorrhoids. H. B. Stone, Baltimore.—p. 680.
Use of Bags and Version at Term. M. P. Rucker, Richmond.—p. 682.
Antisepsis in Obstetrics. G. B. Byrd, Norfolk.—p. 685.
Borderline Cases of Calculus Disease of Kidney. R. A. Hooe, Washington, D. C.—p. 687.
Variation in Sugar Content of Spinal Fluid. W. B. Martin, Norfolk. —p. 689.
Bags and Version. R. P. Kelly, Lynchburg.—p. 691.
Time and Tuberculosis. C. H. Cocke, Asheville, N. C.—p. 695.
Treatment of Gonorrhea in Male. C. B. Pritchett, Danville.—p. 700.
Management of Chronic Nephritis. W. B. Blanton, Richmond.—p. 703.
Healthy Tonsils. W. C. Moomaw, Petersburg.—p. 708.
Eversion Fractures of Ankle Joint. J. W. Gibbon, Charlotte, N. D.—p. 712.
Causes of Hypertension. F. C. Rinker, Norfolk.—p. 715.
Prevention of Heart Disease. W. A. Plecker, Richmond.—p. 717.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Experimental Pathology, London

February, 1922, **3**, No. 1

*Effects of Changes in Intraventricular Pressure and Filling on Ventricular Rhythm in Partial and Complete Heart Block. I. DeB. Daly and E. H. Starling.—p. 1.
*Importance of Inorganic Constituents of Food in Nutritional Disorders. I. Rickets in Pigs. W. E. Elliot, A. Crichton and J. B. Orr.—p. 10.
Comparative Study of Normal and Malignant Tissues Grown in Artificial Culture. A. H. Drew.—p. 20.
*Urea Tests of Renal Function. G. A. Harrison.—p. 28.
*Experiences with Schick Test and Active Immunization Against Diphtheria. S. M. Copeman and R. A. O'Brien, A. J. Eagleton and A. T. Glenny.—p. 42.
Carbohydrate Metabolism of Surviving Mouse Tissues and Tumors. B. R. G. Russell.—p. 51.
*Wassermann Reaction in Relapsing Fever. H. E. Road.—p. 59.

Effects of Changes in Intraventricular Pressure on Rhythm in Heart Block.—In confirmation of other observers Daly and Starling have found that after complete division of the auriculoventricular bundle, acceleration of the idioventricular rhythm can be evoked by stimulation of the cardiosympathetic nerves. In the heart separated altogether from nervous impulses, as in the heart-lung preparation, a rise of arterial pressure, or increased inflow into the heart, frequently causes increase in the idioventricular rhythm after complete division of the auriculoventricular bundle. It cannot yet be decided whether this result is due to the stimulating effects of increased tension or increased stretching of the ventricular wall, or to a direct irritant effect of the stretching on the recent lesion in the neighborhood of the auriculoventricular bundle. Reasons are given for believing that the latter is the more likely explanation. After partial division of the auriculoventricular bundle, a rise of arterial pressure or increased filling may cause the block to become complete, the block becoming once incomplete when the pressure or filling is reduced to its previous value.

Value of Inorganic Food Constituents in Nutritional Disorders.—Pigs fed on a diet of bran and oatmeal, which contained an abundance of the three vitamins, nevertheless developed rickets in two months. Another series, however, under the same conditions, but supplied with calcium salts, did not develop rickets. Pigs fed on oatmeal, rice, skimmed milk and salt also developed rickets, but the control series with calcium salts did not. If animals were fed on a diet containing a minimum of "fat soluble A" but plenty of calcium salts, the rickets syndrome did not appear although the condition of the animals was not so good as that of the controls.

Urea Tests of Renal Function.—Harrison found the provocative urea concentration test useful in 400 cases. When applying the test (*a*) it is advisable to withhold fluids for at least six hours before the test; (*b*) it is safest to measure the volume of urine passed each hour, even though the urea be not estimated in all samples. A volume greater than 150 c.c. (first hour), or 100 c.c. (second or subsequent hours), generally signifies excessive diuresis when a result below 2 per cent. does not necessarily imply an inefficient kidney. The test should be repeated and controlled by estimating the blood urea. (*c*) Occasionally it may be impossible to bring diuresis within these limits. Other test are then essential. In one case of diabetes insipidus, diuresis was controlled by 1 c.c. of pituitary extract subcutaneously. (*d*) Fifteen gm. may not always be sufficient to provoke a concentration greater than 2 per cent., although the kidneys be efficient. (*e*) Proteinuria exceeding 0.4 per cent. (Aufrecht) may introduce a large error. Blood urea estimations may be misleading (e. g., before operation) if the nature of the diet is not considered. By simply combining the urea concentration test (15 bm. by mouth) and the blood-urea estimation, the former is chocked and the latter is standardized. The "normal" values for the urea concentration test (urine), the blood urea and the urea concentration factor are discussed. The use of the

urea test in the prognosis of renal disease and in the treatment of edema in nephritis is briefly mentioned.

Experience with Shick Test and Active Immunization Against Diphtheria.—In a residential school of 329 children, among who a recent epidemic of diphtheria had occurred, eighteen (6 per cent.) carried morphologic *B. diphtheriae* in the throat or nose. At the first swabbing, at the end of the epidemic, 5 per cent. of carriers were found; at the second, two months later, 2 per cent. From these eighteen children twelve cultures were isolated, of which five were virulent. The later swabbings from these five carriers showed either avirulent organisms or no "morphologic diphtheria" bacilli. On the grounds of a bacteriologic examination of a large number of cases of diphtheria, carriers and convalescents, the following suggestions are tentatively put forward by Copeman et el. That the "avirulent carrier" is of no importance epidemiologically. That the danger of a carrier of virulent bacilli is, at the time of examination, proportionate to the number of virulent bacilli present in throat and nose, and, therefore, to the ease with which the virulent bacilli can be isolated. Of 329 children, aged from 3 to 16 years, 102, i. e., 31 per cent., gave a positive Schick reaction; 95 per cent. of the readings made on the first day proved to be accurate. Of the 227 children who had given a negative response when first Schick tested, 203 remained in the school eleven weeks later. Of these, 201 on being retested again gave a negative or a negative (and pseudo) response, thus confirming the decision made two months previously. Two showed a positive response at the second test; these two children had had antitoxin injected shortly before the first test was made. These 102 children were inoculated with toxin-antitoxin mixtures (Park and Zingher formula). Local reactions occurred in about one third of the children; though in some of these the area of inflammation was large, the activities of the children were but little interfered with. Constitutional reactions were slight in all but two of the children. Of the 102 children, ninety-nine were still present in the school eleven weeks later when the Schick test was repeated. Two gave an undoubtedly positive response, the remainder a negative or negative (and pseudo) reaction; 98 per cent. were, therefore, immune.

Wassermann Reaction in Relapsing Fever.—From evidence presented by Road it appears probable that a transient positive Wassermann reaction may be found to be a constant phenomenon during the acute stage of relapsing fever. The transient character distinguishes it from the reactions due to syphilis. If the positive result is observed on every occasion in a particular patient, it may be suspected that he has syphilis also.

British Medical Journal, London

March 11, 1922, **1**, No. 3193

*Surgery of Blood. T. Sinclair.—p. 375.
*Treatment of Insomnia. R. D. Rudolf.—p. 377.
*Rickets: A Theory of Metabolic Disturbances and of Its Association with Tetany. N. Paton.—p. 379.
Amputations at Shoulder and at Hip. H. Littlewood.—p. 381.
Clinical Aspects of Abdominal Tuberculosis. J. Morley.—p. 383.
Resting Metabolism of Children and Adults in Switzerland. L. Hill and J. A. Campbell.—p. 385.
Pertussis with Leukocytosis of 176,000. G. Bourne and J. M. Scott.—p. 387.

Surgery of Blood.—Sinclair discusses the part played by surgery in the treatment of such conditions as hemophilia hemorrhage, thrombosis and embolism, splenic anemia or Banti's disease, splenomedullary leukemia and other so-called blood diseases.

Treatment of Insomnia.—Rudolf asserts that all cases of insomnia may be classified as being produced either by an increase in the excitability of the nerve centers or from an increase in the afferent stimuli reaching those centers, or by both. In every case the afferent stimuli should be reduced as much as possible, and to this end, after the environment has been made as appropriate as practicable, physical therapy, especially hydrotherapy, should be employed. If the excitement of the cerebral centers remains too great, then this may have to be reduced by the employment of hypnotics, and here the mildest should first be used. Opium and its derivatures should never be employed in the treatment of chronic insomnia, or in that dependent on abnormal mental states.

Error in Lecithin Metabolism Cause of Rickets.—Panton suggests that an error in the metabolism of lecithin, probably in the liver, may be a causal factor in the failure of bone formation in rickets, and that this faulty metabolism may in some cases be accompanied by an increased conversion of cholin into guanidin compounds, thus explaining the association of tetany with rickets.

March 18, 1922, **1**, No. 3194

*Pernicious Anemia and Septic Anemia. W. Hunter.—p. 421.
Sterility with Reference to State. R. A. Gibbons.—p. 427.
Digestibility of Bacteria. C. E. Dukes.—p. 430.
*Slipping Rib. R. Davies-Colley.—p. 432.
Restriction of Influenza Epidemics in Schools by Use of Local Prophylactic Vaccines. A. I. Simey and J. W. H. Eyre.—p. 433.
Aluminum Wire Throat Swabs. L. Grant.—p. 434.
*Influenza with Extreme Hyperpyrexia. E. T. Glenny.—p. 434.

Pernicious Anemia and Septic Anemia.—In the diagnosis of pernicious anemia Hunter stresses again the occurrence of sore tongue as the earliest and chief diagnostic feature. Such a history, associated with the clinical features of increased blood destruction (hemolysis) is, according to his observation, the most important infective and diagnostic feature of this disease. So much is this the case that the name which would, in his judgment, most clearly connote this disease, help in its early recognition and subsequent control, and at the same time get rid of the word pernicious, would be "glossitic hemolytic anemia," or, more shortly, "glossitic anemia." The second great outstanding feature of this disease is the extraordinary marked seasonal character of its onset and its periodic relapses—namely, July to September for its onset, and approximately the same months, July to September, for its relapses. Another feature shown in other cases, one of great importance, is the surprising degree of anemia which accompanies the first attack, down to 40 per cent., a fact of importance since it is very seldom that the blood is examined at this period. Lastly, a constant feature is the existence of nervous features in slighter or severer degree in all cases of the disease—visceral pains (in tongue, stomach, or intestine), peripheral, cerebral and mental. Another form of anemia discussed by Hunter is septic anemia. Oral sepsis can and often does cause a form of anemia quite different from the hemolytic anemia of the sore tongue disease. The anemia so caused is not an anemia sui generis as the former is; it is an anemic condition by long standing sepsis—chiefly streptococcal—such as accompanies dental disease, or may be found from time to time in adjacent parts, especially the antrum and nasal air sinuses. This septic anemia is, in Hunter's experience, the commonest form of all anemias. The intense clinical interest of this anemia is that it may not only exist alone. For more frequently it exists along with and complicates other anemias in which similar conditions of oral sepsis are present, and herein lies part of the great importance of oral sepsis in connection with the disease termed pernicious anemia. Hunter discusses the increased powers of recovery after removal of sepsis and the powers of recovery in glossitic anemia.

Slipping Rib.—Abnormal mobility of the lower intercostal joints, or slipping rib, causing painful symptoms, Davies-Colley asserts is a rare condition yet it is not mentioned in the modern textbooks of surgery. His two patients were quite incapacitated by the excruciating pains which followed any attempt to do manual work. The pain is described as of a sharp, stabbing nature, giving place after a few moments to a dull ache, which lasts for a considerable time, and may, indeed, persist throughout the day, only disappearing after the night's rest. In its position at the costal margin it resembles the pain due to so many deeper lesions so that the diagnosis is missed. The treatment consists in resection of the loose terminal portion of the rib cartilage. In Colley's cases this was followed by immediate and lasting relief from symptoms.

Extreme Hyperpyrexia in Influenza.—Glenny records a case of influenza in which the temperature was as high as

114 F. on one occasion. The axillary temperature twice reached 112 F. Every possible source of error was eliminated. That the patient recovered is ascribed to the fact that the high temperatures were of short duration, that cardiac tonics were given before the heart showed signs of collapse, and that throughout two invaluable nurses acted with commendable promptitude.

Indian Medical Gazette, Calcutta

February, 1922, **57**, No. 2

Syphilis in Relation to Mental and Nervous Diseases. A. W. Overbeck-Wright.—p. 41.
Prophylactic Value of Inoculation Against Influenza from Experience of Epidemic at Khulna Jail. S. L. Sarkar.—p. 51.
Extirpation of Lacrimal Sac. R. E. Wright.—p. 52.
Presence of Infectious Jaundice in Bombay. M. J. Parmanand.—p. 54.
Case of Fungating Endocarditis (Streptococcal) Leading to Rupture of Aortic Valve, Successfully Treated with Stock Serum and Autovaccine. U. P. Basu.—p. 57.
*Fracture of Atlas and Axis. E. W. Bradfield.—p. 59.

Fracture of Atlas and Dislocation of Axis.—Bradfield's patient fell into a well two months before he saw him and sustained a backward dislocation of the axis and a fracture of the atlas. His head and neck were rigid but not absolutely fixed. There was no anesthesia nor neuralgia in the area supplied by the great occipital nerve, and no paralysis of any of the neck muscles. The knee jerks were slightly exaggerated and the plantar response was extensor in character. No other nerve symptom could be elicited. The boy sought treatment for "fever" and not for this injury, which caused him little inconvenience.

Journal of Laryngology and Otology, Edinburgh

March, 1922, **37**, No. 3

Problems Which May Present Themselves to Occasional Broncho-Esophagoscopist. R. M'Kinney, Memphis, Tenn.—p. 109.
Structural Type of Mastoid Process, Based on Skiagraphic Examination of One Thousand Craniums of Various Races of Mankind. A. L. Turner and W. G. Porter.—p. 115.
Two Hundred Cases of Tonsils and Adenoids Treated by Operation. F. G. Wrigley and G. E. Archer.—p. 122.
Pathologic and Clinical Aspects of Deaf-Mutism. J. S. Fraser.—p. 126.
Foreign Body in Left Bronchus Removed by Lower (Tracheal) Bronchoscopy. J. S. Fraser.—p. 140.
New Tracheotomy Tube and False Membrane Forceps. A Cubley.—p. 141.

Journal of Tropical Medicine and Hygiene, London

March 1, 1922, **25**, No. 5

*Nature of Antigen in Complement Fixation Test for Bilharziasis. G. Z. L. LeBas.—p. 49.
Case of Elephantiasis of Vulva. J. G. MacNaughton.—p. 55.

Complement Fixation in Bilharziasis.—From the results obtained by LeBas it would appear that the antigenic substance, acting in the test for bilharziasis, is insoluble in absolute alcohol and acetone; since the treatment of the material by these two reagents did not remove it, and it was not present in the alcohol solution fraction. Further, the antigenic substance cannot have been destroyed by prolonged treatment with acetone and absolute alcohol, nor irreversibly precipitated by them; since it would not then have been found in solution in the subsequent treatment with 50 per cent. alcohol. It must be soluble to some extent in physiologic solution of sodium chlorid, since extracts with this solvent yield an efficient antigen. The solubility character of the class of alcohol soluble proteins—the prolamines—which are insoluble in absolute alcohol and insoluble in water, but are soluble in from 50 to 85 per cent. alcohol, would appear to be coincident with that of the antigen.

Lancet, London

March 11, 1922, **1**, No. 5141

*Amebic Liver Abscess: Etiology and Pathology. L. Rogers.—p. 463.
Metric System for Prescribing. W. C. Sillar.—p. 469.
*Surgical Treatment of Exophthalmic Goiter. W. H. C. Romanis.—p. 471.
*Etiology of Gout L. J. Llewellyn.—p. 475.
Estimation of Physical Fitness. A. A. Mumford.—p. 478.

Etiology of Amebic Liver Abscess.—Summarizing his review of the etiology and pathology of amebic abscess of the liver, Rogers says the serious affection formerly known as tropical liver abscess, both in the acute multiple, small and chronic large single forms, is produced by infection through the portal vein with the *Endameba histolytica*, only very occasionally assisted by bacteria, and is always secondary to antecedent amebic ulceration of the large bowel, which is clinically active and acute in the multiple variety, but usually completely latent clinical in the more chronic single variety, while such abscesses never occur in relation to bacillary dysentery.

Local Anesthesia in Goiter Operations.—Of 250 patients with exophthalmic goiter of all types of severity, on whom Romanis has operated, many with pulse rates of more than 180 and some with auricular fibrillation and other gross disorganization of the heart, only six, or 2.4 per cent., have succumbed. Performance of the operation under local anesthesia Romanis is convinced has largely contributed to the low mortality. Of the six patients who died, two were operated on under ether. Five patients operated on under local anesthesia developed pneumonia (to which two of them succumbed). It would appear, therefore, that in postoperative pneumonia, in general, the anesthetic is by no means necessarily the cause, and that, perhaps, anesthetists have been blamed unjustly for their share in the production of this complication. Other details in connection with the performance of the operation are discussed.

Heredity of Gout.—Gout, Llewellyn asserts, is purely hereditary. A tendency to cellular sensitization is the pathologic groundwork of the disorder—viz., latent gout. The gout is evoked by the corresponding protein or antigen, whether animal, vegetable, bacterial, or other. It exerts its effects through the medium of vascular endothelial poisoning, with effect on the tonus of unstriped muscle, especially the bronchioles. The same finds its clinical expression in the regular and so-called irregular manifestations of gout.

March 18, 1922, **1**, No. 5142

*Orthopedic Aspects of Rheumatoid Arthritis. A. H. Todd.—p. 515.
*Application of Modern Methods in Treatment of Psychoses. R. G. Rows.—p. 522.
*Lethargic Encephalitis: Clinical Observations on Thirty Cases. A. J. Hall.—p. 526.
Hysterical Nature of So-Called Pernicious Vomiting of Pregnancy. A. F. Hurst.—p. 528.
Severe Uterine Hemorrhage After Vaginal Operations. J. Phillips.—p. 530.
Case of Sever Fracture of Femur Due to Bull's Horn. H. A. Lediard.—p. 530.
Extroversion of Bladder Treated by Vesicocolostomy. J. A. C. Macewen.—p. 531.
*Case of Sarcoma of Mandible in an Infant. S. P. Mummery.—p. 531.

Treatment of Deformities Caused by Rheumatoid Arthritis.—Todd's experience shows that a great deal can be done for a large number of those who suffer from rheumatoid arthritis. To eradicate the cause of the complaint is always difficult and often impossible, but there are hundreds of patients whose deformities can perfectly well be cured, and the main object of this paper is to point out this fact, and to show how the various deformities can best be remedied.

Treatment of Psychoses.—If we are to understand mental illnesses Rows states we shall have to consider not psychology alone, nor psychology combined with a knowledge of the nervous system. A study of the physiology of the human organism must be included, and also whatever of the allied sciences of biology and anthropology can assist in throwing light on the origin and characters of the psychoses and the psychoneuroses.

Prognosis of Lethargic Encephalitis.—Hall asserts that a steadily progressive stupor with rising temperature and loss of sphincter control is ominous, though not necessarily fatal, but by the time that stage is reached the gravity of the case is obvious. In the early stages uncertainty as to the futures of most cases is one of their most characteristic features. Even during the progress of the case it is often impossible to form an opinion as to the prospect of recovery. Comparing it with other acute specific infections it is apparent that signs on which one can usually rely in them for prognosis are often not forthcoming in cases of encephalitis. Patients with comparatively mild attacks recover only to be seriously damaged for very long periods, even permanently. Others who have appeared in the early stages to be near death

recover quickly and completely, while still others whose illness has seemed moderately severe for one or two weeks suddenly become worse and die without any obvious reason why they should.

Sarcoma of Jaw in Infant.—Mummery's patient was only 9 months old. The tumor in its early stages closely resembled a dentigerous cyst. It apparently sprang from the left mandible, occupying the left side of the mouth nearly to the middle line. Roentgenograms showed the second temporary molar embedded in the outer wall of the cyst, and the germ of the unerupted first permanent molar lying beneath it. A provisional diagnosis of dentigerous cyst was made. An operation for its removal was performed. The pathologic report was "small round cell sarcoma." Treatment by radium was undertaken, and was so far successful that the swelling disappeared entirely in a fortnight. The patient was seen again three months after the operation when the swelling had reappeared and was of the same size and appearance as formerly. A second operation was performed and radium was again used. The swelling subsided again, but reappeared in about two months. The patient died, aged 20 months, from asphyxiation caused by pressure of the growth on the fauces.

Medical Journal of Australia, Sydney

Feb. 4, 1922, **1**, No. 5

Operations for Carcinoma of Rectum. H. B. Devine.—p. 115.
Clinical Aspect of Initial Lesion of Syphilis in Male. N. M. Gibson and C. J. Wiley.—p. 123.
"X" Disease. G. H. Burnell.—p. 126.
Keratodermia Blenorrhagica. G. Lindeman.—p. 126.
Parasitic Conjunctivitis (Phthirius Pubis). R. G. Waddy.—p. 127.

"X" Disease.—Burnell records a case of "X" disease in which symptoms similar to those described as following lethargic encephalitis occurred. The patient, aged 7, was treated with the serum of a patient convalescent from "X" disease, the dose injected subcutaneously being 30 c.c. Her condition gradually improved. One year later Burnell saw her again and was struck with the resemblance she presented to a patient suffering from paralysis agitans in an advanced state. There was a well marked, slow, rhythmical tremor of both arms. The speech was even more hesitating than before, and, although the face was not without expression, there was a good deal of dribbling of saliva. There was no marked loss of power. Burnell believes that this case furnishes some clinical evidence that acute poliomyelitis and "X" disease are separate entities. On the other hand, the symptom complex of lethargic encephalitis differs somewhat widely from that of "X" disease, so that it would appear likely that these are three separate, although allied diseases.

Feb. 11, 1922, **1**, No. 6

Some Directions in Which Advances in Preventive Medicine Could Be Made in Queensland. W. A. Sawyer.—p. 141.
Course and Treatment of Carcinoma Uteri. A. N. McArthur.—p. 145.
*Intermediate Paralysis of Respiratory Center. F. J. T. Sawkins.—p. 152.
*Sudden Fatal Case of Melena Neonatorum. J. N. Brown.—p. 153.

Feb. 18, 1922, **1**, No. 7

South Australian Laboratory of Pathology and Bacteriology. J. B. Cleland.—p. 171.
Wassermann Test. L. B. Bull.—p. 172.
Vaccines. H. M. Mayo.—p. 173.
Deaths From Pulmonary Embolism. J. B. Cleland and D. L. Barlow.—p. 175.
Rickets in Foxhound Puppies. L. B. Bull.—p. 176.
Limping. W. Potter.—p. 177.
Caseated Thymoma of Mediastinum. J. B. Cleland and F. H. Beare.—p. 182.
Case of Lymphatic Leukemia. J. B. Cleland and F. H. Beare.—p. 182.
Case of Accidental Hemorrhage. P. L. Hipsley.—p. 184.
Blood Transfusion. A. H. A. Court.—p. 184.

Intermediate Paralysis of Respiratory Center.—The outstanding clinical features in the cases seen by Sawkins were sudden failure of respiration, while the heart continued to beat regularly for considerable periods, if artificial respiration were maintained. One patient recovered sufficiently to be discharged from hospital and was lost sight of. One other recovered temporarily but died in a subsequent attack.

Fatal Case of Melena Neonatorum.—In the case cited by Brown the hemorrhage occurred within two hours after birth. The hemorrhage, the initial and only one, ended fatally.

South African Medical Record, Cape Town

Feb. 11, 1922, **20**, No. 3

Clinical and Serologic Aspects of Syphilis in Obstetric Practice. E. C. Crichton and T. J. Mackie.—p. 42.
Accessory Sinus Inflammation. W. L. Pink.—p. 45.
Vaccines in Rheumatism. J. Pratt-Johnson.—p. 49.
Origin and Development of Johannesburg Hospital and Branches. R. Daly.—p. 50.

Tubercle, London

March, 1922, **3**, No. 6

Hemoptysis and Its Treatment. II. Action of Drugs and Physical Measures. C. Riviere.—p. 241.
*Effects of Tuberculin. P. M. Holst.—p. 249.
*Conjugal Tuberculosis. S. Tillisch.—p. 256.

Effects of Tuberculin.—Investigations concerning the effects of tuberculin in the healthy organism which were made by Holst showed that the reaction which takes place in vitro by the binding of tuberculin in living tissue to a certain extent may take place also in vivo, and that the binding here is mainly effected by the bones. The circumstance that tuberculin cannot be recovered quantitatively in the organism after injection possibly means that the tuberculin now forms a new combination which cannot be detected by present methods. This may also explain why it has not been possible to find tuberculin in the tuberculous organism. Holst also has tried to isolate tuberculin from the bones of tuberculous animals and men. From lack of material he has not, however, been able to complete these experiments. He says that not until certain knowledge regarding the fact of tuberculin in the organism is obtained will it be possible to determine whether it is a true product of the tubercle bacillus, or an artefact formed by the decomposition of the real toxin.

Conjugal Tuberculosis.—Among 1,152 married patients who were made the subjects of a study by Tillisch as to the incidence of tuberculous in both husband and wife, eighty-five, i. e., 7.4 per cent., of their consorts were also tuberculous. Thirteen of these eighty-five persons had been exposed to infection while they were children. Thus, there remain seventy-two cases in which tuberculosis can, in all probability, be assumed to have been conveyed from one consort to the other; therefore, marriage with a consumptive does carry with it a certain risk for the healthy consort.

Annales de Médecine, Paris

December, 1921, **10**, No. 6

Dystrophia of Glands. IV. V. Hutinel and M. Maillet.—p. 421.
*Protein Metabolism and Uremia. R. Marquézy and P. Zizine.—p. 446.
*Thrombosis of the Aorta. C. Aubertin.—p. 454.
*The Arsphenamin Shock. E. Jeanselme and M. Pomaret.—p. 467.
*Recent Neurologic Literature. J. Lhermitte.—p. 489.

The Nonprotein Nitrogen and Uremia.—In three cases of chronic nephritis described, with necropsy, the manifestations of uremia seemed to parallel the proportion of nonprotein nitrogen in the blood. The residual nitrogen is an index of grave disturbance in nitrogen metabolism, but does not suffice for the prognosis as the nonprotein nitrogen content may drop to normal any day. The urea in the blood, on the other hand, is a gage of the functional capacity of the kidneys, and thus throws light on the prognosis in the majority of cases.

Thrombosis of the Aorta.—Aubertin adds 2 new cases to the 32 he has found on record. In 18 of the cases there was symmetrical gangrene of both legs. This is the essential symptom of thrombosis of the aorta. The abdominal aorta was the seat of the thrombosis in all but one case. In this the thrombosis was in the arch of the aorta, but the gangrene of both legs was as pronounced as in the abdominal aorta cases. In some of the cases the thrombosis was a necropsy surprise. Pain is the rule with thrombosis of the aorta; it is not in the aorta itself, but in the feet and the calves. The gangrene may be limited in extent or may include the entire lower extremities. In one of his 2 cases it extended to the abdomen, and in Keilty's case to the diaphragm. In 4 cases there was intermittent claudication and, in 7 cases, paraplegia. Senile gangrene is not symmetrical, or there is an interval between the involvement of the two limbs. The only difficulty in differentiation is when the symmetrical gangrene is not recognized in one limb, attention being focused on the more

pronounced lesion. Immediate massage, crushing and scattering the obstructing thrombus, may restrict the gangrene to one limb or ward if off altogether. In 2 cases an attempt was made to remove the embolus. It succeeded in one case, and in the other the circulation was restored, although the patient died four days later.

Arsphenamin Shock Phenomena.—From analysis of the literature and their own conclusive experiments on dogs, and clinical experiences, Jeanselme and Pomaret accept as a settled fact that the phenol bodies in the arsphenamin series are responsible for the shock phenomena. The phenol precipitates albumin and thus induces flocculation in the blood. This upset in the colloid balance in the blood is manifested by physiologic phenomena of the same order as the shock induced by peptone, etc., which is a true anaphylaxis. Flocculation cannot occur unless conditions favor it; the amount of precipitation in vitro of the albumins by an acid solution of neo-arsphenamin is an index of the disturbance and shock that may follow its injection into a vein. If the injection is made very slowly; if the drug is much diluted—even although the acidity tends to upset the colloid balance—yet the injection may proceed without appreciable reaction, the colloidal balance being immediately restored by the dissolving of the flakelets. In the clinic and in animals, the reaction depends on the relative acidity of the solution of the drug and the speed with which it is injected. This reaction can run the whole scale from traces of flocculation to actual coagulation. The aggregations of flakelets induce sudden shock, analogous to shock from any insoluble body getting into the blood stream. The blood of persons who have had nitritoid crises on injection of arsphenamins has always been found exceptionally acid. With a highly alkaline blood, the arsphenamin shock need not be feared; up to 0.6 gm. of arsphenamin or 0.9 gm. of neo-arsphenamin can be injected with impunity. If flakelets form, they dissolve again at once, but hypoalkaline blood exposes to arsphenamin shock.

Recent Neurologic Literature.—Lhermitte calls attention in particular to Christiansen's work on brain tumors; Hall's on lenticular degeneration, and Thomas' on the pilomotor reflex. Works by these authors along the same lines have been summarized in THE JOURNAL in the last few months. Lhermitte emphasizes the importance of the pilomotor reflex as the simplest and most reliable means at our command for investigating the condition of the sympathetic nervous system. When either mechanical, caloric, tactile or electric stimuli have exhausted their effect, the reaction can be elicited with pristine force by changing to one of the other forms of stimuli. Great progress has been realized in the estimation and interpretation of the pilomotor reflex by the data learned from the war wounded. As the innervation responsible for this reflex is derived exclusively from the sympathetic, the reflex response is often directly contrary to the tendon and skin reflexes. It is essentially a brain reflex connected with emotive states, and thus may have a psychologic aspect.

Archives des Maladies du Cœur, etc., Paris

January, 1922, **15**, No. 1

Special Form of Paroxysmal Tachycardia. L. Gallavardin.—p. 1.
*Myocarditis with Paroxysmal Tachycardia. E. Lenoble.—p. 15.
*Hutinel's Cardio-Tuberculous Cirrhosis. E. Lenoble.—p. 20.

Tuberculous Myocarditis.—In both of Lenoble's two cases the inoculation of guinea-pigs directly from the myocardium gave positive results. In the first case there was paroxysmal tachycardia; in the second, the myocarditis was of the type of Hutinel's *cirrhose cardio-tuberculeuse*.

Archives Médicales Belges, Liége

November, 1921, **74**, No. 11

*Vaccine Therapy in Exanthematous Typhus. E. Savini.—p. 1009.
*Neurasthenia as an Endocrine Syndrome. N. Goormaghtigh.—p. 1040.

Vaccine Therapy in Typhus.—Savini describes 970 cases of typhus given vaccine therapy at the Roumanian Red Cross hospital during the war. Eliminating the seventy moribund patients, the mortality was 15.4 per cent.

Neurasthenia as an Endocrine Syndrome.—Goormaghtigh cites the various efforts made by clinicians to explain neurasthenia, and asks in what measure has the treatment of neurasthenia been benefited by these many studies. The knowledge of the rôle of internal secretions demonstrates the necessity of eliminating factors that upset the endocrine equilibrium. Toxemia must be suppressed. To convince a patient that the organism is capable of recuperation is useful as also massage, exercise and hydrotherapy. In most cases, however, the functional deficit of the internal secretions requires organotherapy, and some remarkable cures have been recorded under this as he describes.

Bulletin de l'Académie de Médecine, Paris

Feb. 21, 1922, **87**, No. 8

*Roentgen Treatment of Erythremia. Béclère.—p. 227.
Spasmodic Aerophagia and Its Treatment. L. Livet.—p. 231.
Clinical Chronaximetry. H. Guilleminot.—p. 234.
*Permeability of Liver in Diabetes. J. Hatiegan.—p. 236.

Roentgenotherapy in Erythremia.—Béclère relates that Lüdin was the first to report (1916) the permanent cure of a case of erythremia under roentgen exposures of the skeleton, the long bones, pelvis, spine, scapulae, sternum and ribs, but not the spleen. In seven weeks the erythrocytes dropped from 8,000,000 to 4,800,000 and all the symptoms subsided. This success was repeated in two other cases, and others have reported at least transient benefit. Béclère reports two new cases, in men of 39 and 49. Only the humerus and femur on each side had been exposed, but the erythrocytes dropped to normal range, the symptoms disappeared, and the patients consider themselves cured. Of course it is a question whether the cure will be durable. The interval since has not been up to five years in any instance.

Excessive Permeability of the Liver.—Hatiegan was surprised to find that in six cases of diabetes with emaciation, 0.24 gm. of indigo carmin stained the duodenal juice as brilliant a blue as the original solution injected. Even the foam was a bright blue, and the stain was pronounced even with only 0.04 gm. of the dye, while in the normal there is no trace of the dye in the duodenal juice with even 0.08 gm. The liver is evidently excessively permeable in diabetes of the wasting type. In ordinary diabetes the stain behaves as in the normal.

Bulletin Médical, Paris

Feb. 4, 1922, **36**, No. 6

Derangement of Nitrogen Metabolism in Pulmonary Tuberculosis. M. P. Weil.—p. 93.
Esophagoscopy: Technic and Application. L. Dufourmentel.—p. 95.

Feb. 18, 1922, **36**, No. 8

*Aortic Diastolic Murmur After Forty. L. A. Amblard.—p. 137.
*Plastic Linitis. V. Pauchet.—p. 139.

The Aortic Diastolic Murmur in the Forties.—Amblard had the rare experience of examining thousands of men with disordered action of the heart as consultant during the war, and he also served in the hospitals under Huchard in the heart disease department. The experience thus acquired, in addition to his own practice, has convinced him that a diastolic murmur in the aorta between the ages of 40 and 50 is scarcely ever found except in the syphilitic. He declares that the state of the aorta is what determines the age. Even if the Wassermann test is negative, and nothing can be found in the subject or his children or wife, or the previous history, yet Amblard advises neo-arsphenamin and potassium iodid treatment in the hope that a syphilitic element may be modified by specific treatment. This murmur is so constantly a sign of syphilis, when there is no recent infectious disease to explain it, that it may be regarded as an urgent call for specific treatment to ward off general paresis, tabes, etc.

Plastic Linitis.—Pauchet remarks that even roentgenography is unable to distinguish between benign linitis, sclerosis, cancer and diffuse syphilitic disease of the stomach. Gastrectomy is indicated in all unless improvement follows specific treatment, but the benign linitis cases offer the most favorable prognosis as there is no hyperchlorhydria to contend with.

Bulletins de la Société Médicale des Hôpitaux, Paris

Jan. 27, 1922, **46**, No. 3

Bismuth Stomatitis. Milian and Périn.—p. 135.
*Obesity with Hydrocephalus. Babonneix and Denoyelle.—p. 150.
*Megaduodenum. G. Variot and Cailliau.—p. 158.
*The Chronic Malaria Question. J. Rieux.—p. 162.
Aneurysm in Wall of Heart. A. Sézary and J. Alibert.—p. 172.
*Myoclonus-Epilepsy. J. Abadie and M. de Teyssieu.—p. 179.
*Latent Suprarenal Insufficiency. Oudard.—p. 184.
*Serotherapy of Scarlet Fever. Mironesco and Sager.—p. 188.
Pituitary Treatment of Diabetes Insipidus. Urechia and Dersca.—p. 191.
Cerebellar Abscess Simulating Schizophrenia. C. I. Urechia.—p. 195.

Obesity with Hydrocephalus.—Study of the literature and of a case illustrated, in a middle aged man, has convinced Babonneix and Denoyelle that the pituitary is not responsible for obesity accompanying essential hydrocephalus. The causal lesion is in the walls of the third ventricle. They present arguments to refute Cushing's pituitary theory.

Congenital Megaduodenum.—Necropsy explained the recurring uncontrollable vomiting of bile in the young infant. The congenital megaduodenum was accompanied with stenosis of the lower portion.

Chronic Malaria.—Rieux insists that the diagnosis of chronic malaria is often made heedlessly. Because a person has had malaria at some time, all morbid manifestations afterward are apt to be credited to the malaria as long as he lives. In examining 150 soldiers who had contracted malaria in the Near East, and were labeled "chronic malaria," he found anemia and splenomegaly in 20 per cent. but no signs of malaria. In 60 per cent. there were no signs of malaria but gastro-intestinal disturbances or cholecystitis had incapacitated the men. Chronic bronchitis, sclerosis of the lungs and nervous symptoms were evident in others.

Myoclonus Epilepsy.—The young man's muscular jerking is almost continuous. The myoclonus began at the age of 6, and at 15 was so severe that he was confined to the bed most of the time. The infrequent epileptic seizures began eleven years after the progressive myoclonus, but the physical and mental development seems otherwise normal. There were no familial features in this or in Crouzon's recent case, and no pathologic antecedents. No sedatives had the slightest action on the intense myoclonus except phenobarbital. Under large doses, 0.3 gm. a day, the myoclonic phenomena subsided enough to allow the young man to be up and about. At first, under only 0.1 gm., the jerking disappeared entirely for a month, but the effect is less pronounced now, even under the larger doses.

Latent Suprarenal Insufficiency.—Oudard's patient was a man of 42 who was operated on five months after an accident as the fractured bones did not heal. Symptoms of suprarenal insufficiency had followed the accident, but later subsided. The shock of the operation entailed acute and fatal suprarenal insufficiency, and both suprarenals were found totally destroyed by tuberculous processes.

Convalescents' Serum in Treatment of Scarlet Fever.—The serotherapy was applied in twenty-one of the graver cases of scarlet fever at Bucharest, and the results are said to have been favorable. It did not prevent the development of nephritis in one case.

Feb. 10, 1922, **46**, No. 5

Gangrenous Cholecystitis. P. Lereboullet.—p. 257.
Spontaneous Emphysema in the Tuberculous. Pissavy et al.—p. 259.
*Findings in Other Lung with Pneumothorax. A. Gendron.—p. 261.
*Therapeutic Action of Calcium Chlorid. Pellé.—p. 264.
Case of Diabetic Gangrene. A. Chauffard et al.—p. 270.
*Venous Pulse in Varicose Veins. Lechelle and Mouquin.—p. 273.
*Artificial Pneumothorax in Children. Babonneix and Denoyelle.—p. 275.
*Paget's Disease and Tabes. H. Claude and P. Oury.—p. 283. Idem. G. Guillain.—p. 291.

Physical Findings with Artificial Pneumothorax.—Gendron discusses the misleading auscultation findings in the sound lung when the other lung is compressed. He ascribes them to a propagation of the sounds from the diseased lung, and the course of a case described confirmed this assumption.

Calcium Chlorid in Treatment of Diarrhea, Vomiting and Hemoptysis.—Pellé injected intravenously a solution of calcium chlorid in 24 cases of persisting diarrhea in the tuberculous; in 12 cases of dysenteriform diarrhea; in 30 cases of vomiting in tuberculosis; in one case of the uncontrollable vomiting of pregnancy, and in 2 cases of tuberculous hemoptysis. The drug by this route induces a hemoclastic shock; in five minutes the number of leukocytes had dropped by 400 to 2,200 from the preceding figure. This hemoclastic shock arrested the diarrhea, the vomiting and the hemoptysis in nearly every case. The only rebellious cases were in 3 tuberculous subjects with persisting vomiting. At first he injected 5 c.c. of a 5 per cent. solution, but for the last year has followed the Rist-Ameuille method of injecting from 2 to 4 c.c. of a 50 per cent. solution. There is always a reaction to this strong solution, but it lasts only a minute, a sensation as if hot water were being poured over the body. No local or general toxic action was ever noted otherwise.

Venous Pulse with Heart Disease.—In Lechelle's case the postsystolic pulse in the saphenous veins accompanied varicose veins and mitral stenosis, with complete arrhythmia, in the woman of 79.

Artificial Pneumothorax in Children.—Babonneix relates that one lung alone was affected in only 4 per cent. of the 280 tuberculous children at the sanatorium, and in 5 of the 12 in this group pleural adhesions prevented the proposed artificial pneumothorax. The findings and course in the 7 other cases are reported in detail, with the roentgenograms. In 3 of the 7 cases, a focus soon developed in the other lung, evidently from infectious material squeezed out of the compressed lung. These foci retrogressed and soon healed, but they teach the necessity for applying the compression only slowly and gradually, to avoid forcing the contents of the cavity into a bronchus. In another case there was great improvement but bacilli are still found in the sputum. In the 3 other children the outcome was excellent and this seems to be durable. The wall of the thorax on that side sank in and scoliosis developed in every case, and these deformities have grown more and more pronounced.

Paget's Disease of the Bones Plus Tabes.—The woman of 57 was being examined for a fleeting acute infection when signs of both Paget's disease of bones and signs of tabes were discovered. Claude cited some other cases which suggest a connection with syphilis in certain cases, and, in the discussion that followed, Lereboullet reported an instance of Paget's disease of the bones developing simultaneously in a man and his wife. The woman had been treated for syphilis, dating from ten years before her marriage to this second husband who has never shown any signs of syphilis unless the Paget osteitis is accepted as such. Milian stated that six patients with the Paget osteitis had been benefited by specific treatment as for syphilis. Achard recalled that the lesions of Paget's disease of the bones are more of the type of those of inherited rather than acquired syphilis. Chauffard knows a family in which both mother and daughter present typical Paget osteitis. Achard argued that the spirochete of syphilis does not act directly on the skeleton but modifies indirectly the production of bone.

Journal de Chirurgie, Paris

February, 1922, **19**, No. 2

*Treatment of Complex Bilateral Harelip. V. Veau and J. Lascombe.—p. 113.
*Technic for Gastro-Enterostomy. Goullioud.—p. 187.

Treatment of Complex Bilateral Harelip.—Veau and Lascombe do not attempt the whole operation at one time. By this means the first intervention can be done at an earlier age, even as early as the fourth week, following with the second operation in three or four months. They have thus treated three recent cases at the age of 1 to 3 months, and have been surprised at the ease with which the operation could be done, and the smooth healing. The ultimate outcome is shown three or five years later in some of their cases, and the various steps of the operation are described in nineteen illustrations.

Gastro-Enterostomy with Straight Jejunal Loop.—Goullioud protests against turning the loop of jejunum, as many do, in fastening it to the stomach.

Journal d'Urologie, Paris

January, 1922, **13**, No. 1

*Extension of Pyelotomy. G. Marion.—p. 1.
Five-Glass Catheter Examination of Urine. A. L. Wolbarst (New York).—p. 9.
*Radium Treatment of Cancer of Prostate. C. Perrier and Andreae.—p. 15.
*Hypoplasia of Bladder. A. Cosacesco.—p. 21.
Bilateral Ureter-Vagina Fistula. L. Martin.—p. 25.

Enlarged Pyelotomy.—Marion's illustrations demonstrate the ease with which even very large calculi can be extracted through an incision in the pelvis. When the shape and direction of the calculus are known, the incision in the pelvis can be carried up on the kidney in the exact direction required for the easiest extraction of the calculus. The tracing for the incision thus differs in each case. In one of his illustrations, the calculus was 7 cm. long and 5 cm. wide, with three branching arms, making the whole diameter over 7 cm. In another case the calculus was 8 cm. long, shaped like a leg of mutton; the incision here was almost a fishhook shape.

Radium Treatment of Cancer of the Prostate.—The cancer was inoperable when first seen, but it subsided under two courses of radium emanations, a total of 20.5 and 78 millicuries in three months. Three months later the prostate was removed. The photomicrograms disclose a very few cancer cells still perceptible in the prostate, but there is a possibility that, although not destroyed, their vitality may yet have been impaired by the radium.

Hypoplasia of the Bladder.—The bladder in the boy of 10 had never retained urine; the urine had always dripped, day and night, a drop at a time. There was also an arrest of development in the lower portion of the spinal cord, with lacking sacrum and coccyx. Cosacesco was successful to a certain degree in developing volitional control of the bladder. This was accomplished by systematic distention of the bladder, injecting fluid until it hurt. By this simple means a receptacle for the urine was formed, and the urine can be retained for half an hour at a time.

Lyon Médical

Jan. 10, 1922, **131**, No. 1

Diabetes in Children. G. Mouriquand.—p. 3.
Present Status of Cancer Research. F. Duplant.—p. 36.

Feb. 25, 1922, **131**, No. 4

*Chronic Abscess of Lung. Piéry and L. Barbier.—p. 139.

Chronic Abscess of the Lung.—The man of 40 presented symptoms which suggested interlobar purulent pleurisy, tuberculosis or abscess of the lung. Then came a five months latent period after the acute phase, and then a return of the acute symptoms, and artificial pneumothorax was induced. This was soon followed by purulent pleurisy, and necropsy revealed the chronic abscess in the lung. The pneumothorax had better not be attempted in such a case unless there are indications that the cavity is draining into a bronchus. The lower the abscess, the better the chances for this. The pressure from the gas should be very slight at first. It is wise also to ascertain that the abscess is separated from the visceral pleura by an ample zone of parenchyma.

Paris Médical

Feb. 18, 1922, **12**, No. 7

*Crossed Sex Tumors. Menetrier, Peyron and Isch-Wall.—p. 133.
*Retrogression of Cancers Under Radiotherapy. Lacassagne.—p. 143.
*Cancers on Birds. A. Peyron.—p. 146.
Diagnostic Excision of Scrap of Cancer. H. Rubens-Duval.—p. 151.

Feb. 25, 1922, **12**, No. 8

Reconstruction of Orbit. F. Terrien.—p. 157.
Importance of Examination of Former Site of Chancre in Syphilitics. G. Milian.—p. 159.
Properties of Phenylethylhydantoin. Gelma and Schwartz.—p. 162.
Epileptiform Seizure as First Symptom of Pleurisy. C. Laubry and S. Bloch.—p. 166.

Tumors of Female Type in Men and of Male Type in Women.—In discussing this special chapter of the histogenesis of tumors, Menetrier remarks that recent progress in comparative embryology has thrown considerable light on the embryologic potential of the different parts of the ovum. On the other hand, study of tumors has thrown much light on embryology, as he explains in detail.

Retrogression of Cancers Under Radiotherapy.—Lacassagne concludes from his analysis that the wide variations in susceptibility of different cancers to the roentgen and radium rays, and the variety of different histologic mechanisms which determine their retrogression, seem to indicate that each variety of cancer requires a special technic for radiotherapy. Our knowledge in this line is still very rudimentary.

Experimental Cancer Research.—Peyron of the Paris Institut Pasteur comments on some facts recently learned in regard to the so-called infectious tumors on birds. They are actual sarcomas and can be grafted indefinitely. A remarkable feature is that the filtrate alone—without any cells—will transmit the neoplasm. Even the blood of a bird with metastasis of such a tumor will transmit the malignant disease. The influence of trauma is remarkably evident in the location and development of these sarcomas on birds. He urges to focus research on the infectious origin of sarcomas. The bird sarcoma cells and virus can be successfully transplanted even after thorough exposure to radium.

Presse Médicale, Paris

Feb. 18, 1922, **30**, No. 14

*Importance of the Glycogen in the Liver. H. Roger.—p. 145.
Differential Diagnosis of Pelade and Tineas. R. Sabouraud.—p. 146.
Cerium Salts in Laryngeal Tuberculosis. G. Portmann.—p. 148.
Nature of Erythema Nodosum. P. Pagniez.—p. 149.

The Rôle of the Glycogen in the Liver.—Roger calls attention to recent research by himself and others which has demonstrated that the glycogen formed by the liver is not only a reserve, from which the organism borrows, but it enters directly into most of the chemical transformations accomplished by the liver. Glycogen is thus an indispensable element in the liver processes dealing with ketone products, fats, the derivatives of protein, toxic substances, and even micro-organisms. Glycogen is far more than a mere testimony to the activity of the liver; it is an important factor in liver activity, as he explains in detail. Biologic chemistry thus has definitely confirmed what empiric observation had long determined in regard to the protection of the organism by glycogen, and the importance of an ample supply of the foods from which the liver makes its glycogen. Sugar is indispensable in infections and intoxications, and in all conditions tending to induce acetonemia and acidosis. The favorable action of subcutaneous or intravenous injections of a solution of glucose is due in large measure to the reenforcing by it of the functions of the liver. Chevrier asserts that by taking 150 gm. of sugar the evening before and again the morning of the operation, anesthetics are less liable to induce liver disturbances. He follows the operation with a sugar solution by rectal drip. Among the numerous experiments described by Roger are some in which 0.125 c.mm. of an anthrax culture, injected into a peripheral vein, killed the rabbit in thirty-eight hours, while a dose, sixty-four times larger, injected into a branch of the portal vein, failed to induce the slightest symptoms, testifying to the complete annihilation of the anthrax bacilli by the liver.

Feb. 22, 1922, **30**, No. 15

*Paralysis of External Branch of Spinal Nerve. L. Bard.—p. 157.
Anomalies in Fifth Lumbar Vertebra. A. Léri.—p. 158.

Paralysis of Spinal Nerve.—Bard reports a case of compression of the spinal nerve from aneurysm of the internal carotid. It demonstrated the influence of this nerve on the sternocleidomastoid muscle and on the function of twisting the neck.

Feb. 25, 1922, **30**, No. 16

*Pseudo-Cavities in Lungs. P. F. Armand-Delille et al.—p. 165.
*Indications for Myomectomy. Goullioud.—p. 168.
Technic for Transfusion of Blood. L. Cheinisse.—p. 171.

False Cavity in Lung.—The displacement of the trachea, from traction by the shriveling of a chronic fibrous tuberculous process in the lung, is liable to induce physical findings suggesting the existence of a cavity. The roentgenograms from ten cases of the kind cleared up the misleading

findings. The esophagus, heart and aorta may be dragged out of place at the same time. The patients have generally passed the age of 40 and, notwithstanding their old chronic tuberculosis, are yet in fairly good condition. There is some retraction of half of the chest; some scoliosis; displacement of the apex beat and heart dulness, and sometimes there is dysphagia, or suprasternal depression on inspiration, or an intercostal depression. Palpation with the forefinger of the fossa above the sternum is instructive when the head is bent.

Pregnancies After Myomectomy.—Goullioud relates that 20 per cent. of 26 married women treated by abdominal myomectomy have borne children since. In a total of 99 cases he has compiled in which pregnancies have followed the myomectomy, delivery was normal in 100 of the 125 conceptions; in 20 instances there was abortion, and premature delivery in 5. The uterus ruptured in 3 cases, and this is the only complication inherent to the conditions after myomectomy. It calls for special care in suturing. In his own total of 104 myomectomy cases, 34 of the women were single and 14 of the others were over 40. There have been 11 pregnancies, with 12 viable children, 2 stillborn, and 2 miscarriages. In one case, during the ten years following the enucleation of several small myomas at the age of 25, the woman gave birth to two healthy children, and then a large fibroma required hysterectomy. The child had club-feet and soon died in one case in which a large fibroma with two smaller ones had been enucleated at the age of 30. As this is the only instance of fetal deformity, Goullioud does not believe that the myomectomy was necessarily responsible for it.

March 1, 1922, **30**, No. 17

*No Preformed Center for Speech. P. Marie.—p. 177.
Stenosis of the Pylorus in Infants. B. Weill-Hallé and R. Weissman-Netter.—p. 181.

March 8, 1922, **30**, No. 19

Tropical Medicine. G. Delamare.—p. 201.
Diphtheric Paralysis of Soft Palate. V. de Lavergne.—p. 202.

Speech Center in the Brain.—Marie denies that there can be in the human brain an inborn or preformed center for spoken or written speech, as there are centers for motor functioning. The psychic processes, he theorizes, are generated by a kind of vibration of the nerve elements, and these vibrations are propagated by a series of elaborating reactions to a large number of cells, which are thus roused to action by the initial volitional or reflex excitation. Among the arguments he cites against the assumption of a preformed center for speech is the evolution through the centuries of written language, through the hieroglyphs of Egypt to the ideographs, then to the syllabic phonetic writing derived from them. The flux and reflux of generations finally detached the letters from the syllables. Man did not invent written language; it was the slow erosion of time that finally accomplished it, and even as late as the Middle Ages, only the priests and the monks mastered it and taught it to their disciples. There was no hereditary transmission of it. The war experiences with thousands of men wounded in the head failed to reveal any instance of aphasia from a wound localized in the region of the third frontal convolution. It was the wounds of the left temporoparietal region, back of the fissure of Rolando, which were accompanied with aphasia.

Marie says further that the brain that served Broca for his first demonstration of "Broca's aphasia" is still to be seen in the museum. The softening process was old and extensive, but Broca was misled by Gall's phrenology to localize the seat of the aphasia in the frontal lobe, as apparently the point where the pathologic process had begun, disregarding all other parts of the brain. Marie adds that if there were an actual speech center in the brain, deafmutes would use some kind of speech, but we know that the sounds they make are less like speech than the sounds made by dogs. The deafmute has to be trained entirely from without. The infant shows also the total lack of any congenital speech center. Aphasia has never been known in a case of right hemiplegia that had developed in a young child. There is no speech center to be destroyed by the lesion causing the hemiplegia, and hence there is no aphasia. In learning to talk, the child used other parts of its brain. The nerve elements of the left hemisphere develop a little earlier than the right hemisphere, and the first mental processes thus begin here and form, as it were, a crystallization center and a base for the associations of ideas. Thus the brain uses this left hemisphere for an important part of its psychic activity, and specializes certain parts of it here, although there is no one special "center" for any of the psychic processes. The different cells of the brain join in an infinity of different psychic processes just as mathematicians use only ten figures for the most complicated calculations.

Revue de Chirurgie, Paris

1921, **59**, No. 11

*Cancer of Urethra in Women. A. Venot and A. Parcelier.—p. 565.
*Operative Treatment of Stiff Elbow. G. Pascalis.—p. 624.

Cancer of Female Urethra.—This long article is based on 87 cases from the literature and one case personally observed. This material warns of the danger of malignant degeneration of a polyp in the urethra treated by any half-way measures. Cauterization, and leaving the root of the polyp in resection, have often been followed by cancerous degeneration. The only safe way is to resect the meatus bearing the polyp, cutting out 1 cm. of the urethra, and reimplanting the urethra in the vestibule. There was recurrence in 33 per cent. of 28 cases treated by partial resection of the urethra, but only in 16½ per cent. of 30 cases of total resection. The results of radium treatment were encouraging in the 4 cases in which it was applied. In Legueu and Chéron's case, the extensive neoplasm in the urethra of the woman of 26 subsided completely under radium treatment.

Cure of Stiff Elbow from Muscular Contracture.—Pascalis' illustrations show the tendon plastic operation with which he lengthened the retracted biceps and restored function to the elbow in two otherwise rebellious cases.

Revue Franç. de Gynécologie et d'Obstét., Paris

January, 1922, **17**, No. 1

*Local Treatment of Puerperal Infection. J. Andérodias.—p. 1.
Immediate Secondary Perineorrhaphy. P. Balard.—p. 12.

Infection of the Uterus.—Andérodias has been applying the Carrel-Dakin method in treatment of puerperal infection of the uterus after childbirth or abortion. Every two hours during the day, and three hours at night, the stopcock is turned to allow 40 or 50 c.c. of the fluid to enter the uterus. An ordinary round urethral sound proved more durable than the Carrel drains, and it answered every purpose in the 152 cases thus treated. The irrigation was kept up from two to six days in all but 16 who required it a day or two longer. If the symptoms persist unmodified for a week, in spite of this treatment, it is useless to prolong it. Omitting 3 cases in which the fever was maintained by pleural or renal disease, the treatment was successful in all but 8.5 per cent.

Revue de Médecine, Paris

January, 1922, **39**, No. 1

*The Sibson's Notch Question. G. Blechmann.—p. 5.
*Edema and Engorgement of Lymphatics. L. Alquier.—p. 19.
*Cerebellar and Vestibular Syndromes. J. Lévy-Valensi.—p. 36. Conc'n.
Recent Literature on Diphtheria. H. Godlewski.—p. 52.

Diagnosis of Effusion in the Pericardium.—In discussing the diagnosis of acute pericardial effusion, Blechmann presents arguments to prove that the *encoche de Sibson*, not only is nonexistent, but that it obtained its place in medical literature by a blunder in translation. The English writer said, "When the heart is adherent and enlarged, it encroaches on the left lung." Blechmann thinks that this word "encroaches" was responsible for the traditional "encoche" which has been linked with Sibson's name ever since, the blunder having been translated back into English as "Sibson's notch," and thus passed on from textbook to textbook.

Edema and Lymphatic Engorgement.—Alquier distinguishes two forms of edema. The edema from stagnation of the lymph above a region of engorgement of the lymphatics disappears as the obstruction to the circulation is removed. The skin is not red over it, and the edema is cold rather than

warm. The other form is an active lymphatic reaction to irritation from an infection or intoxication. This edema develops in waves, with abrupt fluctuations which do not correspond to the conception of stasis, and any slight cause is liable to bring it on, but the skin is not red or hot, and there is no pain unless the vessels are extremely distended. The engorgement of the lymphatics is the relic of a lymphatic reaction. In the beginning there were the active waves. The engorgement once installed, the lymph above it may stagnate. These distinctions in regard to edema are proving of great practical utility, as the indications thus differ, according as the edema is active or passive. In the active form, the edema is only the corollary of some irritative lymphatic reaction, and treatment should aim to remove the infectious or toxic influence responsible for the irritation. In the stasis form, as long as the barrier of the engorgement persists, the edema will persist unmodified by any measures. Walter reported eight cases of stasis edema, elephantiasis of the leg, cured by introducing a tube to drain the stagnating lymph into the region below the engorgement, the buried tube thus bridging the barrier obstructing the circulation of lymph. The tube was left in place for a year. In three cases it was then removed, but the edema returned. It subsided anew when the tube was replaced.

The Cerebellar Syndrome and the Labyrinth Syndrome.—Lévy-Valensi analyzes the present status of our knowledge of disturbances for which pathologic conditions in the cerebellum or labyrinth are responsible. The functioning in both seems to be a reflex automatism, he remarks, but the vestibule does in a wholesale way what the cerebellum does in detail. The vestibule seems to be an *organe de luxe*.

Policlinico, Rome

Feb. 13, 1922, **29**, No. 7

*Primary Tuberculous Ulceration of Vulva. M. Gravagna.—p. 222.
*Foreign Body in Bladder. C. Silvan.—p. 224.
Preceding Disease with Industrial Trauma. L. Rossini.—p. 228.

Primary Tuberculosis of Vulva.—Gravagna's patient had been a prostitute for four years, and had taken several courses of treatment for syphilis and gonorrhea during this time. She had been previously healthy. An ulceration in the vulva proved to be of tuberculous nature, and it spread through the urethra to involve the bladder mucosa. There was no trace of tuberculosis elsewhere.

Foreign Body in Bladder.—The iron curling pin, 8.2 cm. long, had slipped into the bladder of the girl of 14, and the points had dug into the anterior bladder wall, as the pin came to lie across the bladder opening. Although operative relief was sought almost at once, and the foreign body was removed by a suprapubic incision in a few hours, yet a grave septic gangrenous phlegmon had already developed around almost the entire bladder. The bladder wall itself showed no signs of gangrene. Treatment with surgical solution of chlorinated soda, twice a day, arrested the phlegmonous process, and the girl was dismissed entirely cured the thirty-seventh day.

Riforma Medica, Naples

Jan. 23, 1922, **38**, No. 4

Fat Content of Blood in Tuberculosis. A. Muggia.—p. 73.
*Local Temperature over Femoral Vein. N. Samaja.—p. 76.
Serotherapy in Typhoid. C. Pezzi.—p. 80.
Radical Cure of Femoral Hernia. G. Marchetti.—p. 83.

Temperature of Limb with Occlusion of Femoral Vein.—The obstruction and edema were caused by a sarcoma in the thigh, and the high temperature in the leg had attracted attention from the first. It was long accepted as a sign of an inflammatory process.

Rivista di Clinica Pediatrica, Florence

November, 1921, **19**, No. 11

Tardy Manifestation of Congenital Stenosis in the Pylorus. E. Mensi.—p. 641.
Chronic Mediastinitis in Children. V. Mattei.—p. 656.

January, 1922, **20**, No. 1

*Resisting Powers of the Blood Vessels. G. Frontali.—p. 1.
*Disintegration in Tuberculous Meningitis. U. Montanari.—p. 40.

The Resisting Power of the Blood Vessels.—Frontali reports the results of experimental research on subcutaneous and submucosal hemorrhages, with special regard to conditions in children. The resisting power of the capillaries varies in different regions, and varies from individual to individual. But as a rule it is higher in infants than later in life. Under the influence of infections and toxins, the vessels become more fragile. The frequency of hemorrhagic phenomena in children is due to the peculiarly active injury of the vessels from the eruptive diseases, especially measles and scarlet fever.

Metabolism in Tuberculous Meningitis.—Montanari analyzes what he calls the distintegrative symptomatology of this disease as studied in seven cases. Glycosuria was manifest in 36 to 40 per cent. He theorizes to explain this, and the constant presence of creatinin in the urine, as also of acetone, diacetic acid and uric acid in large proportions.

Archivos Españoles de Pediatría, Madrid

January, 1922, **6**, No. 1

*Tumors in Children. E. Nogueras.—p. 5.
Typhoid in Infants. A. R. Lozano.—p. 19.
Astasia-Abasia in a Young Child. C. Pérez Arias.—p. 29.

Tumors in Children.—Nogueras comments on the different location of tumors in children from the locations in adults, the predominance of sarcomas, the greater incidence in boys, and the lesser tendency to cachexia and to recurrence. He refers to D'Espine and Picot's recent compilation of 577 cases of malignant tumors in children, supplementary to Duzan's compilation of 182 cases. He then adds a few cases of tumors in children from his own practice. In one girl of 7 a palliative operation on a periosteal sarcoma on the fibula was followed by pronounced debility and the tumor increased rapidly in size. The leg was amputated and prompt recovery followed although there is still an enlarged gland in the inguinal region. In another case a lipoma on the fibula of a boy of 9 was successfully enucleated. It weighed 785 gm. In three other cases a hydatid cyst in the neck was successfully treated. In one of this group the cyst had ruptured in a fall, and this had induced symptoms of severe anaphylaxis for a time. When the cyst had filled out again it was removed.

Archivos Latino-Amer. de Pediatría, Buenos Aires

January, 1922, **16**, No. 1

Albumin Milk in Infant Feeding. E. Davidsohn (Berlin).—p. 2.
*The Echo Reflex in Chorea. L. Morquio.—p. 18.
Amebic Dysentery in Children. A. Volpe and N. L. Bloise.—p. 26.
*Friedreich's Disease. A. Casaubon and W. J. Muniagurria.—p. 36.
*Pneumococcus Septicemia. M. Acuña and J. P. Garrahan.—p. 46.

The Echo Reflex in Chorea.—Morquio calls attention to the exaggeration of the patellar reflex in certain cases of chorea, and the repetition, two or three times, of the knee jerk, like an echo. This with other features of the chorea in certain cases has convinced him that, besides the rheumatismal form of chorea, we must accept another form as one manifestation of epidemic encephalitis. In his thirty cases of this form in 1918, the chorea followed some catarrhal infectious process; the chorea was moderate and generally limited to one side of the body; the course was shorter than usual, and the termination always favorable. During 1921, chorea was rare and of the rheumatismal type. He had encountered only two cases of epidemic encephalitis during the preceding six months.

Friedreich's Disease.—No cases were known in the family when the boy of 7 developed the symptoms of Friedreich's disease, which is now, at the age of 10, very pronounced. The first symptoms had followed an attack of diphtheria, but the child showed signs of inherited syphilis.

Pneumococcus Septicemia.—The boy of 8 developed pneumococcus septicemia with foci in pleura, lung and joints, but he recovered after a two months' febrile course. Two other cases of pneumococcus septicemia were observed in the same ward in the course of the two weeks, and one proved fatal. Antipneumococcus serum was followed by some improvement in the first case, but then the condition became

much graver, and saline, camphor and subcutaneous injections of a silver salt, with epinephrin by the mouth, were the main reliance.

Gaceta Médica de Caracas

Oct. 31, 1921, **28**, No. 20

*Surgical Treatment of Secondary Dyspepsia. H. Cuenca.—p. 304.
Appendicitic Peritonitis. A. López Rondón.—p. 307.
*Brain Abscess. A. L. Briceño Rossi.—p. 310.
*Thrombosis of Mesenteric Veins. R. Torres Suels.—p. 312.
Helminths in Appendix. J. Quintini M.—p. 313.
*Polydactylia. A. Marcucci Delgado.—p. 317.

Secondary Dyspepsia.—Two cases of long rebellious dyspepsia are described in which a complete cure followed an operation on the gallbladder or appendix or both.

Abscess in Brain.—Briceño calls attention to the two operative cases he reports as the patients were supposedly moribund, but both promptly recovered. The abscess followed an infectious process in the frontal sinus in one and in the maxillary sinus in the other case.

Thrombosis of Mesenteric Vessels.—In Torres' two cases the sudden stormy onset of symptoms suggested perforation of a viscus or ileus, but the operation revealed the viscera intact. The thrombosis in the mesenteric vessels of the small intestine amply explained the symptoms. The diagnosis was made before the operation in one case as the woman's leg had recently been amputated for gangrene.

Polydactylia.—The man and his three daughters had six fingers and toes on each limb. The supernumerary ones were amputated.

Nov. 15, 1921, **28**, No. 21

*Operative Treatment of Acute Dysentery. S. Córdoba.—p. 324.
*Febrile Parahemoglobinuria. C. E. Salom.—p. 328.

Operative Treatment of Acute Dysentery.—Córdoba could not observe the slightest improvement under emetin or other medical measures in a grave case of dysentery in a girl of 13. The onset had been sudden and the course rapidly progressive. As a last resort, a large drain tube was introduced into the cecum and the appendix removed. The rectum was studded with ulcerations, but after the cecostomy the number of stools rapidly declined and contained very little blood; the pulse dropped from 120 to 110; the intense pain in the colon and the fever subsided, and bladder functioning was restored. Thirty hours after the operation he began to flush the bowel through the cecum to the anus, using for the disinfectant a 1 per cent. solution of boric acid. Four hours after this the pulse increased again, the heart failing to complete collapse. The case teaches the danger of temporizing in this grave form of dysentery; the interval between the first symptoms and the operation had been several days. Soto González in a neighboring city operated recently in a similar case the fifth day, with complete success. The improvement in Córdoba's case was beyond question, but the condition had passed beyond the stage of possible recuperation.

Febrile Parahemoglobinuria.—Salom designates by this term a febrile condition developing from two to six weeks after an attack of hemoglobinuric bilious fever. It is a sign of reinfection with malaria, and in the grave form the nerves and glands are involved, and an actual hemoglobinuric bilious fever develops anew. The treatment of the original attack usually decides the form; when treatment was with physiologic and hypertonic saline, heart and nerve tonics and hemostatics, and mosquitoes had been kept away, the mild form is usually promptly amenable to ordinary measures. In the grave form, the main reliance is on methylene blue, ergot, and arsenic by the mouth, or methylene blue and ergot by subcutaneous injection.

Semana Médica, Buenos Aires

Dec. 8, 1921, **28**, No. 49

*Injection of Fluid into Placenta. A. Peralta Ramos and M. L. Pérez.—p. 777.
Compressor and Table for Intravenous Injections. J. Nin Posadas.—p. 797.
Campaign Against Tuberculosis in France of the Rockefeller Foundation. J. W. Howard.—p. 799.
A National Antituberculosis League. J. W. Howard.—p. 801.
Vitamins from Clinical Standpoint. C. Pillado Matheu.—p. 803.

Turgidization of the Placenta.—In 1914, Professor Gabastou of Buenos Aires was trying to clear a placenta of blood in order to apply the Aberhalden test, when the idea occurred to him that distending with a fluid the adherent placenta might help to detach it from the wall of the uterus. He called this the hydraulic procedure, and his publication on the subject attracted much attention. Peralta and Pérez here report the application of the procedure in a series of 28 cases which has confirmed the harmlessness and the efficacy of the method. In case of inertia of the uterus, the artificial turgidization should be preceded by oxytocics. In the cases described, from 500 to 1,000 c.c. of fluid were required, and in one case a vein ruptured and the fluid escaped without distending the placenta. In one case of twin pregnancy, with two placentas, the hydraulic procedure proved exceptionally useful. In 2 cases the hemorrhage had become so alarming that the hydraulic procedure was abandoned. In 3 cases of placenta praevia, the fluid was injected at once to the maximal amount after delivery of the child, as a prophylactic measure, successful in all. Besides the 28 cases in which the procedure was indicated, it was applied in a large number of normal cases which confirmed the reliability and harmlessness of the method.

Archiv für Kinderheilkunde, Stuttgart

Feb. 21, 1922, **71**, No. 1

*Pneumonia in Infants. S. Engel.—p. 1.
*Tuberculosis in Infants. R. Fischl.—p. 6.
*Chronic Lead Poisoning in Children. E. Friedberg.—p. 25.
*Waves of Diphtheria Incidence. O. Lade.—p. 30.
Saponin Hemolysis in Scarlet Fever. F. Tebbe.—p. 40.
Roentgenography of the Hilus in Children. A. Scherer.—p. 54.

Pneumonia in Infants.—Engel's research has apparently demonstrated that pneumonia processes in debilitated infants locate at points where the ventilation is most defective. It is not a hypostatic pneumonia, as in the elderly, but starts in the upper portions and spreads downward.

Tuberculosis in Infants.—Fischel relates that in 2 of the 77 infants with tuberculosis in his service, 1915 to 1920, a positive tuberculin reaction was obtained the sixteenth and the twenty-fourth day after birth. In one of them the location of the only tuberculous process found pointed to infection from the umbilicus or swallowing tubercle bacilli in the amniotic fluid. Only 14 per cent. of the total 3,550 infants responded positively to the skin tuberculin test, repeated regularly every four weeks. At 40 necropsies, the primary focus was manifest in 35 and in all but 5 of these the focus was evidently from droplet or spray infection from bacilli spreaders. In 2 cases the focus was in the bowel, in 2 others in the middle ear, and in one in the nose, evidently from attempts to clean the nose. In 43 of the 77 cases the source of the infection was traced. In the 35 cases in which the mother was tuberculous, the child had been taken from the mother the first day, the third, eighth or tenth day in some of the cases. The tuberculous infants were under weight at birth in 33 of the 77 cases. Even with the tuberculin and roentgen examination, the tuberculosis may escape detection, or the findings may deceptively suggest tuberculosis. A cough is the earliest and most constant symptom; it was pronounced in 45, and in 10 it resembled whooping cough in some respects. Compression of a bronchus by enlarged glands may induce a wheezing during expiration. Constant losses of weight are suggestive, especially soon after birth. In 37 cases there was fever, but in 6 the temperature was constantly normal. Protein therapy is worth a trial, he says, injecting 0.5 or 2 c.c. of horse or sheep serum subcutaneously every day or second day. Tuberculin treatment by various methods was pushed, but no decided effect was realized. It might be possible by combining the tuberculin and the protein therapy to rouse to a better production of antibodies.

Chronic Lead Poisoning in Children.—A boy of 7 developed pains in joints, muscles and head, with weakness of the legs and reflex anomalies which were ascribed to beginning progressive dystrophia of muscles. The child was under observation for four years before the sudden onset of polyneuritis suggested possible lead poisoning. Then it was found that the child had some lead soldiers, cast at home, with which it

played a great deal. The father, a typesetter, gave him lead letters to play with. As soon as all lead was taken away, all the symptoms gradually subsided. There had never been lead colic or the lead line on the gums.

Epidemiology of Diphtheria.—Lade discusses the climatic and geologic factors which may be responsible for the thirty-year tides in the prevalence of diphtheria. He says that we seem to be now at the beginning of a downward trend in the diphtheria curve, as we are entering on a ten year dry period after the twenty year period of extra humidity.

Archiv für klinische Chirurgie, Berlin

Jan. 27, 1922, **119**, No. 1

*Operative Mobilization of Stiff Fingers. E. Hesse.—p. 1.
*Resection of Esophagus. W. Levy.—p. 20.
*Exploratory Excision in Cancer. K. Nather.—p. 64.
The Nature of Epignathus. K. Nather.—p. 73.
Invagination of Appendix. A. Szenes.—p. 88.
*Cleft Sternum. A. Szenes.—p. 116.
*Luxation and Fracture in Trauma of Foot. W. Schulz.—p. 126.
The Intraperitoneal Pressure. E. and P. Melchior.—p. 148.
*Factors that Modify Topography of Body. V. N. Schewkunenko.—p. 157.
*Disease of Male Breast. J. Schneller.—p. 169.
Radiotherapy of Surgical Tuberculosis. H. Boch.—p. 211.
Operation for a Cecal Tumor. A. H. Hofmann.—p. 214.
*Access to Pituitary Through Sphenoidal Sinus. W. Mintz.—p. 219.

Operative Mobilization of Stiff Fingers.—Hesse warns that plenty of time must be allowed to elapse for the infection to die out. In ten cases in which the interval was from nine to eighteen months, the course was aseptic in all but one, while there was only one aseptic course in four cases in which the arthroplastic operation was undertaken in from one to four weeks.

Resection of the Esophagus.—Levy recalls that he was a pioneer in experimental research in this line thirty years ago. Of all modes of access, that through the back, with resection of ribs on the left side, gives most ample access to the thoracic portion of the esophagus. He illustrates the various steps of the operation. After resection of esophagus and cardia, the stump of the esophagus is drawn out through the skin; the diaphragm is sutured to the chest wall, and a wisp of the stomach is brought out through the chest wall below. An autoplastic tube to connect the esophagus and stomach is then constructed. He has found the whole technic feasible and satisfactory in dogs and on cadavers. The reconstructed esophagus lies close to the back, outside of the pleura, and its direction and course are like those of the normal esophagus.

Exploratory Excision of Scrap of Cancer.—Nather has noted a striking spread of the malignant disease following excision of a scrap for examination. He also noted an increase in weight in white mice with cancers after a scrap had been excised, and he thinks the increase in the weight was probably due to an increase in the tumor. An excised scrap is instructive only when a generous scrap is taken from the right spot, that is, at the zone of junction between the malignant and normal tissue. It should be excised with all the precautions of an extensive operation. The frozen section technic is the safest for the examination as it shortens the dangerous interval between the excision and the radical operation.

Cleft Sternum.—Szenes ascribes the congenital cleft in the boy of 8 to pressure from the chin as the cord was wound around the neck.

Complex Trauma of Foot.—The wheel of the automobile had passed over the foot and, besides the multiple fractures, there was complete dorsolateral luxation in the metatarsal phalangeal joint and subluxation in the tarsometatarsal joint. Schulz compares each of these pathologic conditions with statistics from the literature, and discusses the treatment of each. The final outcome in this case was satisfactory.

Factors that Modify Topography of the Body.—Schewkunenko gives an illustrated description of the various factors that modify the shape of organs, gravity, loss of elasticity, fat deposits, etc. All these must be borne in mind in selecting the technic for operations at different ages, according as these factors have had a longer or shorter time to make their influence felt.

Disease of Male Breast.—Schneller surveys the literature on this subject from deformities to infectious and malignant disease, citing instructive examples of each type from the records.

Access to the Pituitary Through the Sphenoidal Sinus.—Mintz turns back the nose and works back to the sella turcica horizontally through the sphenoidal sinus. Four cases are described that demonstrate the advantages of this method. The remarkable variety in the shape of the sella turcica is shown also in a number of illustrations.

Deutsche medizinische Wochenschrift, Berlin

Jan. 26, 1922, **48**, No. 4

*Etiology and Treatment of Detachment of Retina. Uhthoff.—p. 115.
Deposit of a Copper Pigment within the Eye. A. Jess.—p. 118.
Testing of Acoustic Nerve with C^5 Tuning Fork. Uffenorde.—p. 120.
Treatment of Cancers. Sauerbruch and Lebsche.—p. 122. Cont'n.
Treatment of Perforated Gastric Ulcer, with Subphrenic Pyopneumothorax. R. Stahl.—p. 125.
Weight as Index of State of Nutrition. G. Oeder.—p. 126.
Studies on Typhus Fever. L. Finkelstein.—p. 128.
Testing of Corneal and Pharyngeal Reflexes. Max Möller.—p. 129.
Inflammations of the Vulva, Vagina and Uterus. Liepmann.—p. 130.

Etiology and Treatment of Detachment of the Retina.—Uhthoff discusses only idiopathic detachment of the retina from primary exudation of serous fluid below or the shrinking of newly formed cellular tissue, together with shrinking of the vitreous and a secondary collection of fluid beneath the retina. He holds that many cases of retinal detachment are due to myopia, more especially the higher grades of myopia, and states that myopia was the cause of 61 per cent. of his extensive series. He sees no good reason for rejecting the use of a pressure bandage (not too tight); advocates rest in the supine position, although a sitting posture is sometimes preferable, according to the site of the detachment. He favors diaphoresis, but warns against too heavy subcutaneous injections of pilocarpin and unusually large doses of salicylic acid. Strong solutions of sodium chlorid, up to 25 and 30 per cent. concentration, as used by some, are dangerous as they injure the tissues and may result in obliteration of the capsule of Ténon; in one case glaucoma, and in another hemorrhages into the vitreous resulted. Of 351 cases of permanent reattachment of the retina, compiled, 24 per cent. were brought about by operative procedure, 45 per cent. by conservative treatment, and 31 per cent. were spontaneous, without treatment. In the writer's personal experience, about half of the reattachments were cases of spontaneous healing, 28 per cent. were brought about by conservative treatment and 22 per cent. by operative intervention. About 9 per cent. of all his cases resulted in final reattachment. He regards as one of the most harmless operative methods the simple or double puncture of the sclera, with as complete evacuation of the subretinal exudate as possible; recurrences are, however, common.

Medizinische Klinik, Berlin

Jan. 22, 1922, **18**, No. 4

*Genital Hemorrhages. Benthin.—p. 99.
*Psychanalysis. W. Stekel.—p. 102.
*Some Syphilis Problems. Fabry and Wolff.—p. 106.
*Neurosyphilis. J. Brock.—p. 107.
*Phenol for Local Anesthesia of Skin. K. Gerson.—p. 109.
Eyelet Holes in Skin to Lace Up Openings. A. Linhart.—p. 110.
*Poliomyelitis in Adult. P. Holzer.—p. 110.
*Disordered Heart Action in Scarlet Fever. S. Hirsch.—p. 112.
Third Modification of Meinicke Test. W. F. Winkler.—p. 114.
Acute Gastro-Intestinal Disease in Infants. K. Blühdorn.—p. 115.
Conc'n No. 5, p. 149.

Genital Hemorrhages.—In discussing the causes and treatment of genital hemorrhage, Benthin keeps reiterating that the main thing is to discover and remove the cause.

Psychanalysis.—Stekel expatiates on the limits, the dangers and the abuses of psychanalysis. His article forms a chapter in his work "Psychosexueller Infantilism." This chapter is the substance of a lecture delivered at the University of Chicago in May, 1921. He deplores that psychanalysis is still so little understood, notwithstanding all this pandemic of psychanalysis. Even the most expert are liable to overlook some organic disease in its incipience, and then, as the

organic disease continues its course, the physician may be accused of having engendered with his psychanalysis the dementia praecox, or other organic disease. Many a case has been referred to him for treatment, with the diagnosis of hysteria, which he has had to reject, as schizophrenia soon became unmistakable. He insists that psychanalysis should be restricted to the grave cases in which the earning capacity and aptitude for life in general are reduced by the condition.

Problems of Treatment of Syphilis.—Among other points discussed, Fabry and Wolff comment on the increasing prevalence of cases of jaundice, among persons taking arsphenamin treatment, during periods when jaundice is uncommonly prevalent under other conditions. They make a point of treating the jaundice in syphilitics with more arsphenamin, and always found that the jaundice retrogressed under it. Their extensive experience in this line confirms the *monorecidiv* character of the jaundice.

Neurosyphilis.—Brock gives the details of forty-two cases of neurosyphilis under repeated control of the cerebrospinal fluid for years. The fluid findings returned to normal in one case, with symptoms of spinal meningitis at the posterior roots, under a total course of 4.15 gm. silver salvarsan and sixteen mercurial injections, but, after transient improvement in the clinical picture, symptoms of tabes developed. In such cases treatment had better be with small doses of the arsphenamin, possibly with shorter intervals, to avoid irritating further the spinal tracts already tending to degeneration.

Phenol in Anesthetization of the Skin.—Gerson has long made a practice of applying liquid phenol on a cotton-wound toothpick to the skin until the skin turns white. This anesthetizes it as effectually as the ethyl chlorid spray, but with the great advantage over the latter that the anesthesia lasts for two or three hours. The anesthesia of the nerve terminals by this means allows painless subcutaneous and intramuscular injections, even suture of a perineal tear, opening a furuncle, etc. The phenol does not leave a scar, but it may be a month or two before the tint of the spot may be quite normal again.

Acute Poliomyelitis in Adults.—In Holzer's case the clinical picture of acute anterior poliomyelitis in a girl of 17 was masked by acute appendicitis with perforation.

Disordered Heart Action in Scarlet Fever.—Hirsch noted heart disturbances of various kinds in twenty-eight of sixty cases of scarlet fever last winter.

Jan. 29, 1922, **18**, No. 5

Intervention in Disease of Pleura. R. Cobet.—p. 133.
*Correlation of Glands. R. Wagner and J. K. Parnas.—p. 137.
Obstetric Examination of Head. H. Kritzler.—p. 141.
Sexuality in Sporadic Cretinism. H. W. Wollenberg.—p. 144.
Petrolatum Treatment of Chronic Constipation. W. Zweig.—p. 147.
Congorubin Test for Spinal Fluid. Gutfeld and Weigert.—p. 148.

Correlation of the Endocrine Glands.—The girl of 10 seemed to have chronic interstitial hepatitis; the liver was very much enlarged, and in addition there was an odor of acetone about her when fasting, and there is glycosuria after ingestion of starch and sugar, but no sugar is found in the blood, fasting, although ketone bodies abound. After eating sugar and starch, the acetone disappeared, but intense glycosuria followed. This same sequence occurred day after day. Under thyroid treatment, lipemia, lipuria and steatorrhea developed. Wagner and Parnas theorize that the main disturbance in this case is the lack of the ability to form and store glycogen in the liver. In some respects the condition is like that of a mild diabetes, but it differs materially from the latter when sugar is not being supplied from without. There is no formation of sugar from the body reserves. But this takes place when thyroid treatment is given. This seems to suggest that the thyroid is in control of this function. They theorize further that the pancreas presides over the sugar metabolism: through the liver it checks the mobilization of glycogen; through the thyroid it influences the formation of sugar anew. The removal of the pancreas thus removes the brake on both these functions, and complete experimental diabetes is the result.

Münchener medizinische Wochenschrift, Munich

Jan. 20, 1922, **69**, No. 3

*Diagnosis of Types of Tuberculosis in Man. K. E. Ranke.—p. 69.
Treatment of Pulmonary Tuberculosis by Stimulating the Circulatory Apparatus. W. Arnoldi.—p. 72.
Prolapse of the Cord and Its Treatment. Schweitzer.—p. 73.
Laceration of Tentorium and Falx During Delivery. R. Zimmermann.—p. 75.
Acute Perforation of Gastric and Duodenal Ulcer. T. Brunner.—p. 77.
Bronchotomy in Deep, Incurable Stenosis of Trachea. Réthi.—p. 81.
Acetonuria and Experimental Epinephrin Glycemia in Dysentery. Buttenwieser.—p. 83.
Availability of Meinicke's Third Modification. Ruete.—p. 83.
Flocculation Reactions by Sachs-Georgi and Meinicke Methods, and Dold's Turbidity Reaction. R. Strempel.—p. 85.
Peculiar Accident with Pneumoperitoneum. A. Lorey.—p. 86.
Roentgen Treatment of Chilblains. R. Lenk.—p. 87.
Traumatic Renal Cyst. E. Baumann.—p. 87.
Pessaries for Prolapse of Genital Organs. S. Samson.—p. 88.
Nature and Origin of Diastasic Ferments. E. Rothlin.—p. 88.
Toxic Gases in Roentgen Laboratories. H. Guthmann.—p. 89.
Treatment of Ulcus Corneae Serpens. B. Fleischer.—p. 89.

Clinical Diagnosis of Types of Tuberculosis in Man.—Ranke distinguishes four different modes of evolution of tuberculous focal infections in the human organism and three distinctly different ways in which the organism so attacked reacts to the infection. The four modes of progression are: direct spread of the infection from cell to cell; by the lymph glands; by the blood vessels; and spread of the infection in the lumen of hollow cavities, or intracanalicular. As to the three forms of reaction to the infection, he distinguishes a primary reaction with which the infection begins; a later secondary reaction with pronounced anaphylactic features, and a third with distinct evidence of a peculiar partial immunity. Transmission by way of the lymph may frequently be recognized in roentgenograms of the lung by the changes in the lymph vessels, but more especially by infection of the lymph glands. Ranke holds that the hematogenic origin is so rare that practically speaking we can regard a lymph gland infection to be a lymphogenic metastasis, and that is always the case if the regional lymph glands have become involved. Hematogenic metastasis reveals itself likewise by the site of the focus. Tubercle bacilli in the retina, in the suprarenals, in the renal parenchyma, or in other parts of the organism which the tubercle bacillus can reach only by way of the circulation, may be regarded as hematogenic, provided contact and intracanalicular transmission do not enter into the question. This will apply to most tuberculous infections of the connective tissues, the bones and joints. Intracanalicular transmission is determined by similar relations of the focus to glandular tracts, including their more remote outlets; for example, the genital tract, the intestine, the bronchi and other hollow organs.

Therapeutische Halbmonatshefte, Berlin

Nov. 1, 1921, **35**, No. 21

*Roentgen Irradiation for Pulmonary Tuberculosis. Stephan.—p. 649.
Treatment of Influenza in Pregnant Women. W. Koerting.—p. 655.

Roentgen Irradiation for Pulmonary Tuberculosis.—Stephan states that the most appropriate dose in roentgen treatment of pulmonary tuberculosis is one that is just barely effective. Roentgen therapy should be confined mainly to chronic fibrous forms, leaving out of consideration lobular, exudative processes. This indication is, of course, often difficult to meet because both processes frequently appear in close proximity to one another. Roentgen irradiation in pulmonary tuberculosis, he is convinced, can be regarded only as an adjuvant.

Dec. 1, 1921, **35**, No. 23

*Pathogenesis and Therapy of Gout. S. J. Thannhauser.—p. 717.
Roentgen-Ray Treatment of Neuralgias. W. Fürnrohr.—p. 723.
War Neuroses and Peace Neuroses. E. Jolowicz.—p. 728.
Ergotropic Treatment and Ergotropic Action. Von Gröer.—p. 732. Conc'n No. 24, p. 779.
Facial Paralysis and Trigeminal Neuralgia. Auerbach.—p. 737.

The Pathogenesis and Therapy of Gout.—Thannhauser says that the formation of uric acid in the human organism can be reduced only by decreasing to a minimum the intake of nuclein-containing food; that is, the exogenous, preformed uric acid. Diet is, therefore, the principal thing in the therapy of gout. No better proof can be brought for the correctness

of these statements than the rationing of meat during the war. In the war period, when meat had disappeared, for the most part, from the table of Munich's population, not a single acute attack of gout was observed in the Second Medical Clinic. Now that meat is beginning to be more plentiful, he has begun to observe again, at least among the well-to-do, acute attacks of gout.

Wiener klinische Wochenschrift, Vienna

Jan. 12, 1922, **35**, No. 2

Anesthesia in Extraction of Teeth. A. Kneucker.—p. 25.
Reasons for the High Resistance of Certain Vegetative Products to Roentgen Rays. E. Petry.—p. 27.
Ozena. G. Hofer.—p. 27.
Ileocecal Invagination in Roentgenogram. Czepa.—p. 30.
*Cancer of the Rectum. F. Mandl.—p. 31.
Primary Sarcoma of Omentum Majus. W. Smital.—p. 33.
Relation Between Typhoid and Thyroid Gland. Fleckseder.—p. 34.
Rare Microscopic Finding in Stomach Contents Secured by Stomach Tube. W. Robitschek.—p. 35.
*Prophylaxis of Endemic Goiter. R. Klinger.—p. 35.

Cancer of the Rectum.—Mandl subjects to a review the 799 cases of cancer of the rectum that occurred in the Hochenegg clinic during the last fourteen years. They constituted 16 per cent. of all the carcinoma cases; 67.6 per cent. of the cases were in men and 32.4 were in women. Most of the patients belonged to the 50-60 age group. The youngest patient was a girl of 12 and the oldest a man of 81. In 223 cases irregularities in the stools constituted the first symptom of the disease. In many cases emaciation without rectal difficulties was the first symptom, while 66 of the patients were admitted to the hospital with the diagnosis "intestinal catarrh" or "hemorrhoids." As to position, 44.8 per cent. were in the pars ampullaris and 25.9 per cent. were located about 10 cm. from the sphincter. Hochenegg holds that every carcinoma of the rectum should receive surgical treatment. Roentgen and radium treatment produced no good results; in all but one of 28 cases the effect seemed even unfavorable (hemorrhages, pain).

Prophylaxis for Endemic Goiter.—Klinger recommends systematic iodin prophylaxis for endemic goiter, and that all goiter patients who are operated on should be given an iodin tablet every week, for a number of years which he holds will prevent the frequent recurrences.

Zeitschrift für klinische Medizin, Berlin

Dec. 30, 1921, **92**, No. 4-6

*Mineral Metabolism in Hemophilia. R. Berg.—p. 281. Id.—p. 331.
Action of Endocrine Gland Extracts on Gas Interchanges. W. Arnoldi and E. Leschke.—p. 364.
*Sodium Chlorid from Constitutional Standpoint. C. Moewes.—p. 376.
*Purin Metabolism in Chronic Arthritis. F. Lahmeyer.—p. 381.
*Cholesterin in Blood in Kidney Disease. A. Hahn and E. Wolff.—p. 393.
*Acute Yellow Atrophy of the Liver. M. Meier.—p. 406.
*Xanthomatosis and Hypercholesterinemia. F. Rosenthal and R. Braunisch.—p. 429.
*Respiratory Findings in Polycythemia. E. Schill.—p. 442.
*Epinephrin Test of Spleen Functioning. W. Frey and E. Hagemann.—p. 450.
*Acute Yellow Atrophy of the Liver. M. Gutstein.—p. 466.
Importance of Complement Binding Antibodies in Pulmonary Tuberculosis. E. Wetzel.—p. 473.
Experimental Chronic Anemia. N. Schustrow.—p. 490.
*Functional Tests of Blood-Producing Organs. N. Schustrow and Wlados.—p. 495.
The Constitutional Factor in Pernicious Anemia. Schustrow.—p. 501.
Diagnostic Import of Milk Fever Test. R. Schmidt.—p. 505.
*Curative Action of Erysipelas on Tumors. W. Wolffheim.—p. 507.

The Mineral Metabolism.—These are Berg's fifth and sixth reports on his extensive research in this line, and the fourth and fifth report on the work devoted exclusively to hemophilia. The power of oxidation of the products of metabolism is constitutionally below par in hemophilia, and an impending attack can be foreseen by the retention of certain elements in the urine. This might warn of danger. More alkali or more acid might be given in the food, and special care be taken to ward off overexertion and other factors that might aid in bringing on the attack.

Elimination of Sodium Chlorid.—Moewes denies that there is any direct connection between the elimination of sodium chlorid and any constitutional anomalies.

Purin Metabolism in Joint Processes Other than Gout.—Lahmeyer explains that the lack of exercise with chronic joint disease is liable to upset the purin metabolism almost as much as in actual gout.

Cholesterin in Blood in Kidney Disease.—Hahn and Wolff never found any parallelism between the retention of nitrogen and the blood pressure, and the cholesterin content of the blood. The latter seems to be connected, however, with changes in the tubuli.

Acute Yellow Atrophy of the Liver.—Meier remarks that the striking increase during the last few years in the number of cases of acute yellow atrophy of the liver has demonstrated that there is no single cause for it. Ordinary catarrhal jaundice is the main precursor, but the spleen and pancreas may display an activating influence.

Xanthomatosis and Hypercholesterinemia.—The young man in the case described had extensive and progressive xanthomatosis of the skin, but the cholesterin content of the blood was constantly normal, and there was nothing to suggest diabetes or jaundice.

Respiratory Findings in Polycythemia.—Schill found the metabolism normal in three cases of polycythemia investigated, as also the consumption of oxygen.

Test Epinephrin Lymphocytosis.—In sixteen cases of splenomegaly with histologic examination of the spleen, the injection of epinephrin had induced lymphocytosis whenever the spleen was functionally capable. A negative response was never obtained except when the spleen was severely pathologic.

Acute Yellow Atrophy of the Liver.—In the case described, the atrophy followed a course of 10 per cent. extract of male fern in oil to expel a tapeworm. The total dose had been twice that given in the directions on the box of "filmaronöl," and the tapeworm was expelled. The following symptoms were ascribed at first to catarrhal jaundice, but necropsy at the sixth day revealed acute yellow atrophy in the liver. The organ was already the site of an extensive tertiary syphilitic process, but this was probably only an accessory factor.

Test for Bilirubin in Urine.—In the course of Gutstein's report of the above case he mentions that the presence of bilirubin can easily be revealed by adding from 3 to 5 drops of the solution of potassium ferricyanid used in testing for albumin. The fluid turns a bright and durable green in case it contains bilirubin. This test has always proved reliable in several years' experience with it.

Test of Functional Capacity of Blood-Producing Organs.—Arsenic can be used for this purpose, as it has a hemolytic action. The maximal and minimal resisting powers of the erythrocytes were determined, and then an ordinary course of arsenic in daily therapeutic injections was begun, and the resistance of the erythrocytes was tested anew every third day. The findings in twenty-eight cases are tabulated, and the prognostic deductions from the responses.

Curative Action of Erysipelas on Neoplasms.—Wolffheim's review of the literature has shown 7 cases of sarcoma and 2 of mammary cancer in which the neoplasm completely subsided after a spontaneous erysipelas. In 11 other cases of malignant disease, erysipelas cultures were inoculated and the cancer was arrested or disappeared in several of them. In a case personally observed, a round cell sarcoma in the nasopharyngeal space, with extensive glandular involvement, in the man of 62 retrogressed under spontaneous erysipelas. He returned with recurrence six weeks later, and he was then inoculated with pus and cultures from other cases of erysipelas, applied to the scarified skin, or injected, but no effect was apparent. It proved impossible to induce erysipelas in the man. Wolffheim is inclined to explain the favorable action of erysipelas in such cases as a kind of protein therapy, and urges research in this line as possibly a promising treatment for cancer.

Zentralblatt für Chirurgie, Leipzig

Dec. 3, 1921, **48**, No. 48

*Tissue Defense Against Cancer. C. Bayer.—p. 1758.
*Technic of Esophagotomy. G. Mertens.—p. 1761.
Abnormality of Undescended Testicle Utilized in Operation. E. Pólya.—p. 1762.

Treatment of Penetrating Thorax Injuries. E. Haim.—p. 1764.
Etiology of Osteoarthritis Deformans Juvenilis of the Hip Joint. M. Hackenbroch.—p. 1766.

Sources of Defense of Organized Tissue to Cancer.—Bayer points out the constant reference in the literature, in connection with rapidly growing cancers, to the small-cell infiltration (leukocytes, lymphocytes, round cells) which with the microscope can usually be demonstrated in the tissues directly adjoining a neoplasm. Bayer has devoted considerable time to studying these accumulations of round cells commonly found around carcinomatous foci. In lymph glands involved in cancer are found unequivocal evidences of the destruction of cancer cells in the round-cell infiltrates of the lymph follicles. From this fact he concludes that the decomposition of cancer cells is brought about by these infiltrates, and that likewise the round-cell infiltrates about cancerous foci elsewhere constitute a source of defense against the cells of the neoplasm. He cites also four clinical observations in support of this view.

Technic for Esophagotomy.—Mertens describes the method he employed to remove foreign bodies from the esophagus in the case of three children who had swallowed a coin about the size of an American nickel or a flat, round lead button. Esophagotomy was resorted to at once. In general narcosis, the anterior border of the sternocleidomastoid muscle is dissected free on the left side of the neck and mobilized sufficiently so that the muscle can be drawn forward a little. Then a good-sized male metal catheter is inserted through the mouth and with the tip of the catheter the wall of the esophagus is pushed toward the incision. It is surprising how pliable the wall of the esophagus is at this point; in all three cases it was extremely easy to thrust it outward to the level of the external wound and then outside. The wall of the esophagus on either side of the catheter tip is then caught with a silk button suture, these sutures serving to hold up the esophagus, which is then opened at the tip of the catheter. This incision may be made very small, since it stretches considerably when the foreign body is withdrawn through it. Now the forceps are inserted in the esophagus, the foreign body is extracted and the wound closed, except for a small opening, into which an iodoform gauze wick is laid.

Zentralblatt für Gynäkologie, Leipzig

Dec. 3, 1921, **45**, No. 48

The Increasing Inoperability in Cases of Cancer of the Uterus. G. Winter.—p. 1733.
Embolism of the Lung in Pregnancy. W. G. Deucher.—p. 1743.
Application of Diathermy to the Female Breast. A. Seitz and E. Vey. —p. 1748.
Umbilical Hernia in New-Born Child. J. Genschel.—p. 1750.
Prolapsus Vaginae et Uteri ante et intra Partum. Fatal for Mother and Child. H. Kritzler.—p. 1753.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Jan. 14, 1922, **1**, No. 2

*Autochthonous Degenerative Psychoses. J. van der Torren.—p. 178.
*The Future of Internal Therapy. A. Willemse.—p. 186.
Direct Laryngoscopy in Children. E. Huizinga.—p. 193.
Blocking the Nerve for the Lower Jaw. J. J. de Vries.—p. 197.
Ruptured Myxocystoma of the Ovary. J. P. Hofstee.—p. 200.
*Spontaneously Painless Delivery. J. W. T. Willink.—p. 202.

Degeneracy Psychoses.—Van der Torren describes the details of two cases of autochthonous degeneracy psychoses, one with hallucinations, the other of a paranoid type.

The Future of Internal Medicine.—Willemse analyzes some typical cases to illustrate the benefit from injection of diluted turpentine directly into the joint in the phlegmonous form of gonococcus arthritis (four cases), and from daily injection of 1 c.c. of 10 per cent. turpentine in olive oil in puerperal fever (six cases). The prompt subsidence of the symptoms is too surprising to ascribe the entire effect to the one injection. No benefit was apparent in some cases of epidemic encephalitis, but parenteral injection of milk induced an intense focal reaction in some cases of acute articular rheumatism, and after its subsidence there were no further symptoms from the disease. In short, Willemse remarks in conclusion, internal treatment is undoubtedly entering on an era of the alchemy of injections. Empiricism has led the way, and scientific interpretation is trying to catch up with it.

Painless Delivery.—Willink adds another case to the list of those in which the child at term was delivered spontaneously without pain and without the woman's knowledge. In this case the infant was found drowned between the mother's thighs as she lay in bed, under the supervision of a trained midwife. The possibility of painless delivery of this kind throws light on certain cases of supposed infanticide.

Norsk Magazin for Laegevidenskaben, Christiania

February, 1922, **83**, No. 2

*Syphilitic Disease of Heart. N. B. Koppang.—p. 65.
*Blood-Borne Trichophytosis. E. Bruusgaard.—p. 83.
*Primary Duodenal Adhesions. S. Widerøe.—p. 89.
*Transfusion of Blood in Pernicious Anemia. H. F. Høst.—p. 103.

Syphilitic Disease of the Heart.—Koppang says in concluding his monograph that specific treatment of syphilitic disease of the heart may display remarkable efficacy, the arrhythmia, angina pectoris and symptoms of insufficiency all subsiding. But in other cases the result may be very disappointing. He has witnessed insufficiency of the aortic valve develop under his eyes in the midst of arsphenamin treatment. The benefit further may be not very durable. Recurrence is not infrequent. These considerations however do not detract from the importance of systematic treatment of syphilitic disease of the heart during the tertiary stage. We can arrest the course of the disease with it in many cases for a shorter or longer time, possibly for years. Specific treatment is of course only one link in the chain of measures required for the heart disease, but specific treatment is indicated whenever there is the slightest suspicion that syphilis may be involved, regardless of the previous history and negative Wassermann reaction.

Blood-Borne Trichophytosis.—The man of 66 presented the clinical picture of extensive deep trichophytosis, evidently of hematogenous origin and spread. Bruusgaard's photographs and the course of this and similar cases teach Nature's scheme of healing such lesions: the hairs drop out, and the fungus drowns in its own pus. No local measures are needed beyond merely keeping the region clean; at most, protecting the sound skin around with iodin.

Primary Duodenal Adhesions.—Widerøe's five cases illustrate the different clinical pictures liable to be induced by primary or secondary adhesions binding down the duodenum. They may suggest gastric or duodenal ulcer in every respect, except that there is no hemorrhage, as a rule. Dietetic treatment may possibly be of some use in the milder cases. In the cases here described, this treatment had had no or only transient effect, while operative correction proved successful in all. He is confident that these adhesions binding down the duodenum are more frequent than generally recognized; he has had to operate in six cases of the kind within seven years. The duodenum has to be worked loose, eventually with duodenoduodenostomy rather than gastro-enterostomy. He adds that notwithstanding some recent important works on duodenal obstruction by Kellogg, Judd and others, there are still many unsolved problems in the pathologic conditions of the duodenum.

Transfusion of Blood in Pernicious Anemia.—Høst reports that the pernicious anemia seemed to be temporarily arrested in its course in several of the eleven cases described. Remissions were recorded on nine occasions while no effect in five others was apparent. The patients were all kept in bed at first, on a light diet, with an arsenic tonic. The blood picture improved more or less at once in all, and the remissions induced in some have persisted in full force to date. When the donor had polycythemia, the blood did not display any efficacy in this line. Otherwise, the effect seemed to be proportional to the amount of blood transfused. One patient was kept alive for several months, eight transfusions having been made in the course of eleven months, a total of 5 l. of blood. One man of 52 was given five transfusions, 450, 450, 450, 900 and 200 c.c. in the course of the last three years, and he says he feels better than for many years.